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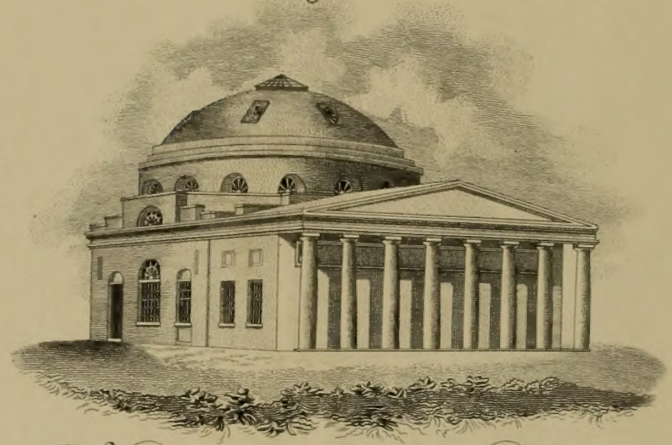

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University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

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UNIVERSITY OF MARYLAND

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UNIVERSITY OF MARYLAND

THESES

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R.05

An
Inaugural Dissertation
on
Cold
Submitted to the Examination of
The Provost, Regents and Faculty of Physic
of the University of Maryland
by
J. Williamson Palmer
of Maryland

—

'— haud quid sit scio,
sed grande quiddam est.'
Seneca Thyestes.

—

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To

Doctor Joseph Roby

this Essay is gratefully inscribed in testimony

of some instances of his personal favour

Erroneously extended to

The Author

Feby. 1846

Cold

Whether considered, whether as a cause or a symptom or a remedy of disease, this is a most inviting topic of medical investigation, and, therefore it is here proposed to inquire not simply into that condition of the circumambient atmosphere to which this term has been applied, but also into that quality of sensation telegraphing the absence of customary heat whether atmospherical or animal. And the announcement of this design may serve to introduce quietly any symptomatological considerations that may hereafter occur in this treatise.

The potency of the natural reparative process in antagonising the action of the demonstrable noxa has been ever and justly held admirable and wonderful even in the estimation of medical sages. The Experience of travellers, the Experiments of professional

— al

professional Enthusiasts / fanatics would perhaps in many instances be the more truthful Epithet /, the collected observations of patholo-gists, and the costly discoveries of some hap-less victims have promised to the medical miner a precious vein of interest and utility to reward the toil of his timely and well-directed gropings in this direction.

The student of natural theology cannot but remark with admiration and much of awe the Proteus-like performance of Providence which has provided a balm for the many "ills that flesh is heir to" in the very agent most potent in implanting them; and this assertion is no sin of exaggeration against knowledge; to con-tradict it were a sin of judgment in the judge, and it is hoped that in these pages such chances will be promptly met with proof unquestionable of much ignorance, most culpable ignorance in a matter of such vast hygienic import.

The

The writer would respectfully claim, in passing, justification for this apparently presumptuous charge in the modest classification of himself in the humblest rank of this multitude of sinners. Much study has availed him little more than to establish the absence of all flaw in their indictment. He is compelled to esteem this a wide field of "Undiscovered Country" in which adventurers are promised something more than their labour for their pains.

Men breathing the delightful "middle extreme" of a temperate atmosphere may not easily be taught to wonder at the existence of countless fellow beings broiling at the tropics, or of the more scanty census freezing at the poles. This is a phenomenon of tolerance we are taught to take for granted, like eels being skinned or lobsters in boiling water, they are used to the thing and we have no surplus sympathy to waste upon them. Only this

result

result do we deduce from such observation, - that the life that is in us stures more rigorously and confidently with extremes of heat than of cold, - and we have proof of this in the contrast that is presented by the scattered races of situated bipeds shivering in the North to the rank organization, human and vegetable, huddled hotly under the Equator, each individual existence "all alive" like crabs.

The journals of Northern travellers furnish a fund of recorded experience upon this subject, priceless to the stationary explorer; and when in the log-book of some "ardent son of the South" we find such an entry as this: - "4th of July - 12 o'clk. M. thermometer 30° below zero - and no sun up in heaven" - we can no longer withhold our gaping wonder. The reader can scarcely fail to be amused by the very reluctant insurance displayed in this observation of

Parry's

Parry's:- The wind veering to the Southeast on the 24th and 25th the thermometer gradually rose to 23°. I may possibly incur the charge of affectation in stating that this temperature was much too high for us, but it was nevertheless the fact, that every body felt and complained of the change. We had often before remarked that considerable alterations of the temperature of the atmosphere are as sensibly felt by the human frame, at a very low part of the scale as in the higher." This fact comprises a physiological maxim sufficiently familiar, that such sensations are merely relative and not to be measured, like the causes which produce them, by mechanism. Still this is wonderful Experience is displaying most providential adaptation, in the human Organization, of susceptibility to impressions, to the intensity of the impressing Agent.

Many circumstances tend to modify remarkably the disastrous effects of External Cold. Among these may be enumerated the physical condition of the atmosphere, whether, for instance, it be quiescent or in motion. Says Captain Parry - "With the thermometer at -55°, and no wind stirring, the hands may remain uncovered for ten minutes or a quarter of an hour without inconveniences, while with a fresh breeze and the thermometer nearly as high as zero, few people can keep them exposed so long without considerable pain" (I get these illustrative Quotations from the pages of Dr. Watson; they answer my purpose sufficiently well, without searching further.) Who has not observed the more rapid freezing of a sheet of water during a windy night? Or to bring the thing "home to the bosoms and businesses of men," what spinster is not familiar

with

with the rationale of blowing her tea to cool it; fresh particles of air being steadily supplied, the rapid abstraction of caloric is continuously maintained; and so it is rice versa with the person of the individual exposed. Experience has taught that constant motion is the best protection from the cold; active exertion which maintains an ample supply of animal heat from within to meet the demand from without. Men with their eyes open and their muscles employed may safely exist where sleeping, they would die.

The opinion that the tendency of extreme cold is to induce fatal sleep has been so generally and easily received, that to question it now would seem little less than presumption, yet we may safely assert that it has never been conclusively proven. Reasoning from the known sedative operation of cold, the deduction

deduction appears, at least theoretically, just, but in most of the instances where this extreme effect has been observed, the victims, travellers generally, individuals of some over-zealous exploring party, have been previously overpowered by fatigue perhaps from the very action of promoting warmth from violent physical exertion; And so the effect whether of fatigue or cold, is the same: they sleep and they die. The story of Dr. Solander is too well known to be re-quoted here. It is sufficient that it proves nothing more than we have just granted. On the other hand there has been plentiful experience of cold equally intense without consequent drowsiness.

Still the explanation of this effect which pathologists have afforded would almost seem to prove it an inevitable consequence. "They say that the chilling of the surface and

Extremities

extremities drives the blood inwards, causes it to accumulate internally and increases the flow of blood to the head." This is so plainly rational, that silenced by the endless arguments swarming to the rescue, we willingly yield the general question for the sake of this maxim that we may make the most of it hereafter.

That the superaddition of moisture assists materially the deleterious operation of cold is well known. Perhaps it were more proper to say that it augments greatly the existing degree of cold; by the rapid evaporation that must necessarily attend its presence actively contributing to the effectual abstraction of heat internally evolved. So the debilitating circumstances enumerated by Cullen - "fasting, evacuations, fatigue, a last night's debauch, excess in venery, long watching, much study, rest immediately after great

Exercise

exercise, sleep, and preceding disease" by a similar operation are conducive to a similar result; - the operation - discouragement of a vigorous circulation, maintaining an adequate supply of animal heat, and the result - encouragement of mere cold with all its letiferous influences; what these influences are, and by what pathological process their designs are effected we shall now proceed to consider.

The immediate impression of cold upon the arterial extremities is, doubtless, distinctly stimulant, and the effect of this is everywhere familiar. Rings drop from the fingers and shoes from the feet, and the fingers' ends are crimped and puckered - the technical cutis anserina. Observing this we cannot fail to remark the sudden disappearance of something; the evident abstraction of a goodly proportion of surface-bulk. Now this something that has

been

been withdrawn is then Contents of the arterial
Extremities and the change has been thus
induced. It is only lately that the existence
of a distinctly muscular Structure in the Coats
of arteries has been Established, and we
are indebted to Henle for this discovery and
his publications, how this, like all muscular
Structures, is possessed of tonicity and chiefly
impressability to the Stimulus of Cold, by
Contact of which prompt and steady
Contraction is induced and maintained
in these arterial parietes, Instantaneous-
-ly with this Contraction occurs the Expulsion
from their cavities (temporarily obliterated)
of the vessels of their contained blood,
The blood is directed inwards, and it is Evident
that Congestion in internal Organs must
be an immediate Consequence, A certain
quantity of fluid to which Ample space
had been previously assigned is suddenly
Compelled

compelled to occupy narrower quarters, and, as in all crowded communities, a mischievous result is not at all improbable. Now these congestions may be ephemeral, if the application of cold be brief, so will be the pent-up occupation of the blood, with the relaxation of the cold grip, temporary obliteration of the cavities of the vessels is removed, each set of globules returns to its old filament, and the congestions are dissipated,

In Wellerian parlance the "consekrence of this minoorer" is encouraging. This momentary contact of an external refrigerant is followed by a change, technically - a reaction, no less pleasant than salutary, and it is in this tonic operation that the decided remedial efficacy of cold applications consists, This word "reaction" is an expressive term for an important and most desirable change, a sound that must

Ever

Ever fall pleasantly upon instructed ears, & ever heartily welcomed for the new life it brings with it. Reaction is often an awakening of new powers of life perhaps long dormant, a sensibly living glow tingling in the surface and cheering one's being from the crown to the heel. A "consummation so devoutly to be wished" is to be secured by no more rational measure than this application of cold to the surface, and yet that this treatment is not employed with sufficient frequency and decision is a melancholy fact and not to be disputed. We are no proselytes to the Hydropathical doctrine of ultra-washyness that, indiscriminately bundling up our professional stock of dry goods would lare it (Hibernice) in their pudder of Quackery, but we cannot less earnestly deprecate the senseless bigotry of innovation-alarmists, or the apathetic laissez faire of the "go-alongs".

We should like to find grateful appreciation of the

of the blessings of cold water beyond the jurisdiction of a total abstinence society; appreciation prophylactical and therapeutical, and indicating some scientific research in this direction since Moses tapped the rock.

This is a sort of useful knowledge, for its general diffusion among the masses, worthy of a society no less numerous and honourable than those that preside over the destinies of Penny magazines. We should like to see the victims of functional dyspepsia, of hysteria and hypochondriasis and epilepsy and all nervous diseases - properly so called, of strumous habit - latent as yet, and of the incubus of a sluggish vitality, a constitution tottering, "not with years" - a host of unfortunates wiser and better for the frequent and familiar knowledge of the shower-bath and the hip-bath and the foot-bath, of ablution and the plunge and the douche, resurrectionizing

tionizing living Lazaruses by a miracle of hygiene.

But the prolonged application of Cold under the unfavorable circumstances already alluded to tends to produce results sadly the reverse of these. It is just to infer that the prolonged accumulation in any organ or sett of organs of a bulk of blood not native to it & additional to its own proper quantum, will effect a permanent impression, simulating if not identical with the actual congestion, the advanced guard of an acute inflammation. It is thus that the deleterious effect of Cold is obtained, and the intensity of its action and the period of its contact are the unerring gauges of its etiological potency; this, too, without regard to the encouragement of collateral circumstances of an unfavorable character; for that the action of

these

these is directed solely to the augmentation of the existing degree of Cold, we hope ample proof is to be found even in the narrow argument of this Essay.

We need scarcely notice here the Opinion, professed to have been Entertained by Dr. Alison and supported by himself and others, that the nervous system, solely, is the medium through which the deleterious influence of Cold is exerted. The most careless observation of a Single Case so Effectually disproves this, showing that the final Consequence, internal and remote, presents no proportion or relation to the primary surface impression, that the question has long since quietly passed from discussion. Dr. Alison appears to have yielded, for once, at least, to temptation, and permitted himself to be easily seduced into the Congregation of shallow-

witted

-shallow-witted hypothesis-mongers, for to him, at least, of all this seeing fraternity, it must have been evident, that, following from the surface to the centre in the footsteps of "a cold" (considered in its vulgar acceptation,) the pathological plodder takes instinctively to the circulation, and hugging closely by its course to the last, finds it much the surest and the shortest route to his destination.

The writer of this was at one time, given to indulge freely in certain precocious speculations relative to the Etiology of acute febrile disorders; arguing upon chemical grounds that certain symptomatic alternations of heat and cold, as in the intermittent type, might be consequent upon condensation of the whole bulk of the blood induced by the stimulant.

Contractile

Contractile Action of External Cold upon the Muscular Extremities; that the heat Evolved by such Condensation must in its turn Effect rarefaction and, necessarily, Consumption of free caloric, - And thus, heat and Cold Condensation and rarefaction mutually producing and Annihilating Each other, temporary destruction of Circulatory Equilibrium is naturally Consequent - This was the Offspring of Vanity got with Child by a train of thought and the brat should be kindly received by its future guardians for its rare merit of funniness.

And now to make an end of this with a few practical hints for "the people". - It has ever been a hobby with Antiquated nurses and nervous - sanguine young mothers to torture infants with what they are pleased to call "hardening", and by stripping their arms and legs and preserving a Constant

constant draught from below by means of a toilet contrivance which may be properly technicalized as the "inverted-funnel-arrangement of petticoat" they contribute no trifling quantum to the accumulating wrongs of babies by pious endeavours to educate their constitutions at the expense of their tempers. Now this is "most tolerable and not to be endured" And the practice cannot be too earnestly deprecated by conscientious practitioners - Swaddle the sufferers warmly first and then let them buffet it. There can be no doubt that a large proportion of deaths within the second year is traceable directly to this very popular error.

Another bugbear, with the working classes especially, is the imminent risk attending the intemperate use of cold water during an intensely heated condition of the system. Now it is proper that such persons should be

should be instructed that this risk is not altogether without their own control.

The fact has been ascertained, and satisfactorily explained by Dr. Watson (the illustrious Over-quoted) and others, that "Cold is dangerous - not when the body is hot - but when the body is cooling after having been heated." The author has frequently observed that it is a common practice with laborers engaged in some arduous task in mid-summer, - as with pariors, carriers, and grain-porters called "runners" - to defer assuaging their thirst until after the completion of the task, or during temporary suspension of labour, or long intervals of rest, - when by perspiration and discontinuance of physical exertion the body is fast parting with its heat and there is, as it were, a voluntary languid relaxation of energy. During the prosecution of the

task

the task

the attention is necessarily distracted from the annoyance of thirst and hence a common and a fatal error, fearfully prevalent.

Let "the workers" be warned of this danger and advised where the danger lies:- not simply in the over-heated system, per se, but in the sudden depression of the super-exalted temperature, violently collapsing, as it were, vitality and leaving a vacuum to be filled only by death. Let them maintain equably the existing temperature in the intervals by diligent persistances in the employment of the moment, and I doubt not they may drink ad libitum.-

To conclude - I have designed and executed an outline sketch of my subject, I may not claim for myself the light of mind essential to the almost tedious accuracy of a Daguerreotype, but, in consideration of the dimensions of my task, I would humbly crave

favour

flavour for this futile Effort.
— "Hand Quid sit Scio
Sed grande Quiddam Est"
And so respectfully Submitted,

— —

An

Inaugural Dissertation

on

Malaria;

Submitted to the Examination

of the

Provost, Regents, and Faculty

of the

University of Maryland

for the

Degree of Doctor of Medicine

by

John D. Smith

1846.

In certain parts of the earth, and under certain conditions, there is exhaled from the surface of the ground a substance or principle which operates as a poison, a specific poison, — producing specific effects upon the human body, and, indeed, (if we may credit the statements of highly respectable travellers) upon the bodies, also, of the inferior animals. This substance or principle has had bestowed upon it, at different times, different names. Formerly it was very commonly known as <u>Marsh Miasmata</u>, — an appellation given to it on account of its effects being most frequently and most strikingly manifested in the neighborhood of fens or marshes. Of late, however, the Italian word <u>Malaria</u>, which literally signifies bad air, has

v

become the more fashionable cognomen of the subtle poison of which we speak.

Malaria, then, as a poisonous exhalation from the surface of the ground, is the scourge and bane of no inconsiderable portion of the habitable world; and those parts of the earth afflicted by its presence, are often the fairest, and on many accounts, the most eligible. But the rankly luxuriant soil that would otherwise make life happy by administering to its wants largely and richly, becomes, thro' the existence of Malaria, the medium of disease and death. Besides many chronic morbid changes which it produces in the systems of those who are subjected for any length of time to its influence, Malaria, ac-

cording as it is more or less abun-
dant and virulent, causes Inter-
mittent, Remittent, or Continued
fevers.

But of the specific effects of Mala-
ria upon the human system, we pro-
pose to speak more particularly in an-
other place.

Tho' it may appear singular, yet the ex-
istence of such a cause of disease as
a morbific exhalation or emanation from
the surface of the ground, was not sus-
pected, or at least not distinctly re-
cognized, until about the year 1695.
In this year Lancisi, an Italian physician,
published a work "De Noxiis Paludum Ef-
fluviis"; and this (says Dr. Watson) is the
great original work on the subject.
It had, indeed, long before this period,
been observed that certain localities

were unhealthy, and that people living in such localities very frequently became afflicted, sooner or later, with definite forms of disease. But a subtle, insensible, poisonous exhalation from the ground, was not, as it would seem, unequivocally recognized as the exciting cause of disease until the time of Lancisi.

We have said that this circumstance — the late recognition of malaria — may appear singular. But we shall cease to wonder at it, if we call to mind that the great principle of the attraction of gravitation, so constantly at work all around them, and producing such evident changes, was not distinctly recognized by mankind and named, until as late a period as that of Sir Isaac Newton's day.

But tho' malaria is now believed to exist, yet we know it only by its effects: of its own nature we are still in profound ignorance. All the attempts that have been made to detect the matter of malarious poisons have thus far proved utterly abortive. The water of marshes, and the air of infected localities, have each of them been subjected to chemical analysis, but no satisfactory results have been obtained.

Some few years since, a gentleman, whose name I do not now certainly remember, instituted some experiments relative to the point which we are now considering. In the course of his investigations, he placed, one night, in a malarious spot, several watch-glasses, in order that the dew when it

formed might be deposited upon them and collected in their concavities in quantities sufficient for his purpose. The fluid thus obtained he carefully evaporated, in the hope that since the dew is deposited during that portion of the twenty-four hours in which the malarious exhalation is known to be most abundant in the atmosphere, the poisonous principle might be left upon the glass so as to be discoverable either by the aid of the microscope or by chemical tests. This gentleman's hopes were of course disappointed.

Above a subject thus baffling all experiment, conjecture, as might be expected, has been rife. Perhaps a majority of those who have thought at all about the matter, have contented themselves, with reasoning, the effects

of Malaria simply to bad air – air loaded with foreign particles and, in any way, rendered impure. But tho' the air of malarious regions is certainly bad or impure, (the matter of Malaria, whatever it may be, being diffused in or intimately mingled with it,) yet it is by no means true that all bad air is malarious air. For tho' it is true that such air is always prejudicial to the health of those who are compelled to breath it, yet it does not produce in the animal economy the specific effects which Malaria produces. It does not, for instance, produce intermittent or periodical diseases.

It was formerly supposed that the unhealthiness of certain localities arose from a want of a due proportion of oxygen in the atmosphere of such places.

But actual experiment, - chemical analysis, has achieved the refutation of this notion. The relative proportion of the two essential ingredients of atmospheric air, viz. oxygen and nitrogen or azote, has been found in every place invariably the same.

Again, Professor Daniel has conjectured that the destructive coast-fevers of Africa may be owing to the sulphuretted hydrogen evolved from the water of the sea by the decomposition of the vegetable matter brought down by the rivers. - This idea, that the effluvia of decaying vegetable matter and malaria are identical, is one that has been very prevalent, and is, as I think we must admit, rather plausible. But we shall see hereafter that this hypothesis is insufficient to

account for all the phenomena of malaria.

Some, again, would refer the effects of Malaria to the agency of animalcule tribes: and this supposition seems to derive some support from the circumstance that the peculiar effects of malaria are especially manifested during the night, and wholly or in great part cease upon the return of day.— As if the solar light had suddenly proved fatal to some kind of noxious life. It may seem to receive confirmation also from the circumstance that a certain degree of heat is essential to the developement of malarious poison; that this poison does not exist at all within the arctic circles, nor during the winter season of the temperate zones, and is far more abundant and

virulent in the intertropical regions than in any other part of the world.

But tho' experiment has thus far been baffled, and conjecture is so unsatisfactory, may we not still cherish the hope that we shall sometime know more than we do now about the nature of malaria? — Here are some considerations, certainly, that would seem to encourage the hope that it may not always elude human search. One of these, and perhaps the most important of them, is, that Malaria seems not to be an <u>imponderable</u> agent. It is, at least, it appears to be influenced by the earth's attraction. For (as we shall soon by and by) it loves low situations and clings along the surface of the ground. — An elevation of a few feet only, as of the second floor

of a home, has been known to afford security from its effects. Now, if we are to attribute its thus seeking the ground to the force of the earth's attraction (and is there any thing else to which it should be attributed in preference?) it would seem, certainly, to imply that the matter of malaria is not (so to speak) infinitely subtilized and attenuated — so subtilized and attenuated as to defy forever all attempts at explanation.

A second consideration calculated to lead our minds into a similar view, is, that Malaria is sometimes attached to, or at least is accompanied by, a palpable mist or fog. Bishop Heber, speaking of a malarious region in India, says: "In the lower parts of which (a dense and close forest) even in the present season, the same thick milky vapor was hovering

as that which I saw in the Terrai, and which is called essence of owl."

Finally, this malarious or miasmatic matter is moved about by currents of air and even rolled up the sides of hills by their force; and it attaches itself, also, in a peculiar manner to trees and becomes entangled and concentrated among their foliage. — Now I know not how these various circumstances may strike the minds of others, but to myself they seem to imply that the matter of malaria is not so completely beyond the reach of patient and well directed scrutiny as is by many supposed.

But leaving the question that respects the nature of malaria, let us now enquire, what are the circumstances under which this poisonous agent or

principle is developed; — what are the
special conditions of its production.

In regard, then, to the production or
development of malaria, numerous
and various observations, and obser-
vations continued thro' a long course
of time, have fully established something
and put them beyond reasonable doubt.
In the first place it is beyond contro-
versy established that to its production
a certain degree of temperature is special
Malaria has never been known within
the arctic circles. The frosts that in
those desolate regions bind as with
fetters the surface of the earth and
enchain all its powers, while they in-
flict many privations and suffering
upon them, defend, nevertheless, the in-
habitants from an evil of no small
magnitude to which their brethren of the

more favored parts of the earth are subjected. Indeed, malaria is seldom found beyond the 56th degree of north latitude; and even in the temperate regions it is evolved only during the warmer parts of the year. It is thought that a continuous temperature higher than that of 60° is essential to its evolution.

As we advance southward we find malaria more and more plentiful and powerful, until within the tropics and under the heats of the torrid zone we find it in the very highest degree abundant and malignant. For while in the temperate latitudes the fevers which it produces are of the intermittent or, at the worst, of the remittent type, in these latter regions they often assume the continued form and

overwhelm the powers of life by the violence of their very onset. As a single instance of this fearful malignancy, a soldier has been known to mount the night-guard in perfect health, and to be taken while standing sentry with wild delirium, and die within 30 hours from the first attack. — This is a degree of virulence seldom or never witnessed in cooler regions.

The accounts which travelers give us of the malarious districts of intertropical countries are really frightful. Such districts can be inhabited at certain seasons neither by man nor beast. Bishop Neher speaking, in his Travels, of a region in the upper provinces of India, says: "I asked Mr. Boulderson if it were true that the monkeys forsook these woods during the unwholesome months.

he answered that not the monkeys only, but every thing that has the breath of life instinctively departs them from the beginning of April to October. The tigers go up to the hills; the antelopes and wild hogs make incursions into the cultivated plain; and those persons such as bark-bearers, or military officers, who are obliged to traverse the forest during the intervening months, agree that not so much as a bird can be heard or seen in the frightful solitudes."

But besides heat, moisture seems to be essential to the evolution of malaria. Hot and marshy districts are, as is well known, its favorite habitats. Most of those places that have been rendered infamous by its ravages are of this description. While, on the contrary, those

situations that are dry and elevated are for the most part exempt from the effects of miasmatic poisons. — In malarious places, as in the neighborhood of the Pontine marshes near Rome, the inhabitants sometimes find security by placing their villages upon the summits of hills.

Again, earth or vice must be present in order to the production of malaria. The simple consideration that confirms this is, that sailors when out at sea are never known to be attacked by fevers attributable to a malarious origin. For if heat and moisture alone without the presence of earth were adequate to the evolution of malaria, we can see no reason why they should not be so attacked. The water of the ocean is in every pump, but the bilge-

water is always present in greater or less quantity, and that is putrid and offensive enough.

Heat, moisture, earth, and air, or (as Mr. Watson observes) the four elements of the ancients, must be present whenever Malaria is evolved. If but one of the four be wanting its development ceases appear to be impossible.

The idea that decomposing vegetable matters plays an important part in the generation of Malaria, has been long and very generally entertained; and it may even surprise some that any should call in question the correctness of this opinion. The most recent observations, however, tend to make us more than suspect its soundness. Bearing upon this point there are some striking facts upon record in

regard to the condition of the British armies in Holland, and also when they were in Spain. Their armies were repeatedly attacked by malarious fevers while they were encamped in places where there was absolutely no vegitable matter to decay; — in some instances upon Sandy and perfectly barren plains, and in others in ravines that seemed to have been stripped of vegitation and of soil together by winter torrents.

In such situations miasmatic fevers prevailed among the soldiers to a frightful extent; — proving, certainly, that the effluvia of decaying vegitable matter are not <u>special</u> to the generation of malaria. But besides this, it is very well known that in places where these effluvia are furnished in the greatest abundance no ague are found.

thus we are furnished with a double proof; for we see the peculiar effects of malaria strikingly manifested in places where there is no vegetable decomposition taking place; and, then, we find those effects altogether wanting where such decomposition is going on and that very rapidly.

The conditions essential to the development of malaria, are thus concisely stated by Mr. Watson. His statement seems to have been drawn up with especial reference to that experience of the British armies in Holland and in Spain to which I have referred. "For producing malaria (says he) it appears to be requisite that there should be a surface capable of absorbing moisture, and that this surface should be flooded and soaked with water and then dried:

and the higher the temperature and the quicker the drying process the more plentiful and the more virulent (more virulent probably became more plentiful) is the poison that is evaluated."

In regard to what may be called the habits of Malaria we are, also, in possession of some well ascertained facts. And these facts are, some of them at least, not merely curious items of knowledge but admit obviously of important practical applications. Rightly applied they would, doubtless, often avail to ward off the attacks of that unseen, yet active and powerful enemy of human health and life, whose nature, habits, effects &c. we are now engaged in considering.

In the first place, then, Malaria is much the most noxious at night.

We are told that the crews of Ships visiting the coast of Africa, may land at any point, and remain thro'out the whole or greater part of the day without experiencing any inconvenience. But if they spend only a single night upon shore, they are almost certain to be taken with fever. The same thing occurs, also, in other parts of the world. The Pontine marshes in the vicinity of Rome to which I have already alluded, cannot be traversed at night without great hazard. Dr. Watson says, "that tho' the passage requires but six or eight hours, there are numerous instances of travelers who, in consequence of their having exposed themselves during the night, have been attacked with violent and mortal fevers

Why malaria should be so much more virulent at night we do not know. That it is so, however, cannot be reasonably doubted. — The precaution suggested by this fact to the inhabitants of malarious districts, and to those who, as travelers, may have occasion to pass thro' such districts, is perfectly obvious.

Another well ascertained circumstance in regard to the habits of malaria, is that it tends towards the ground — clings along the surface of the ground. Of this some very curious and striking facts have been collected. It has been found that of individuals inhabiting the same houses, those on the ground floor were much oftener attacked with fever, than were those living upon an upper floor. Accor-

ding to an estimate made by Dr Ferguson the number of soldiers taken with fever, during a sickly season at Barbadoes, was greater upon the lower floor of the barracks than upon the upper in the proportion of 3 to 2. It was observed, also, at the same time and place, I think, that the morbific principle was peculiarly concentrated and powerful in the ditches of the fort and in the neighboring hollows and ravines.

The proportion in favor of upper floors has in some instances been found to be even greater than that stated above. It has been found to be as great as that of one to two, or even as that of one to three.

Further, Malaria is moved about and transported to considerable distances by

the force of winds. It has even been known in this way to be rolled up the sides of hills, over their crests, and down the opposite declivities.

Not long since I was informed by a gentleman formerly resident in a certain malarious district, that in that district, the high grounds, that had formerly been free from it, became, during one season, accidentally affected by the miasmatic poison. This change my informant was disposed to attribute to the unusual prevalence of easterly winds that seemed to roll up the malaria and hold it compacted upon the opposing hill-sides. — It is certainly possible, however, that those easterly gales might have played the part of predisposing causes, making the inhabitants of the place susceptible of being affected by a de-

quce of the poison which during ordinary seasons, and while their systems maintained their accustomed tone, they were able to resist.

In intertropical regions where the winds are far more regular and constant than they are with us, - blowing for weeks together from the same quarter; - in such places it makes a vast difference whether a town or village is situated upon the windward or leeward side of a marsh or of any malarious tract. In the one case it will be wholly, or almost wholly, exempt from agues; but in the other, it will be sickly enough.

Another and that a singular property of malaria, is, that it cannot pass over water. - The water seems to absorb and drink it up at once.

A striking illustration and proof of this, is, that ships have been anchored in narrow channels with malarious fevers raging on the shore on either hand – only a few rods distant – their crews in the meantime enjoying complete exemption.

Still again, Malaria is attracted to trees, and is either absorbed by them (as we know some gases are) or becomes entangled among or adherent to their foliage. It is considered dangerous for persons in Malarious regions to go beneath trees at night. – To sleep under them would, of course, be a much greater exposure. But, as Mr. Watson remarks, this property which trees possess of attaching Malaria to themselves, may be employed as a protection against its effects. For it

is said that in some parts of South America people live with impunity upon the seaward borders of most pestiferous marshes, provided only that trees, in sufficient numbers, are interposed between those marshes and their dwellings.

Finally, it appears that cultivation of the soil, and attention to cleanliness, have a tendency to do away with malaria. Some districts in England and Scotland that were once very much plagued by this noxious influence, have become almost, if not entirely, free from it. This favorable change has, in the opinion of competent judges, been gradually effected by the lands of those districts being brought under better cultivation.

The burning of many fires within a

limited space, and the covering of the surface of the ground with buildings and pavements (which conditions obtain in cities and large towns) have been supposed to neutralize and suppress malaria. Dr Williams affirms that good fires in a house afford marked protection to its inhabitants. It is certain, also, that attention to cleanliness in cities and large towns has a similar effect. In London ague were formerly very common. But since more attention has been paid to draining and sewerage, they have become comparatively rare.

In regard to the effects of malaria upon the human system, it would appear that they differ somewhat according as that agent is more or less abundant and virulent. Where malaria

is abundant, it produces its Specific effects suddenly; when it is less abundant, more gradually. In some situations an hour's exposure would, perhaps, be amply sufficient to insure a seizure. In another situation a much longer exposure might be endured with impunity.

The most curious circumstance attending the disease produced by Malaria is its Periodicity. But this is not, however, constant.

Where Malaria is abundant and, consequently, virulent (which is the case peculiarly in intertropical regions) we find it producing, instead of intermittents, remittents, and even continued fevers. The yellow fever is believed to be Malarious fever. But with us, and in the temperate regions

generally, Periodicity is, we may say, a constant feature of the disease engendered by Malaria.

– This disease is divided into three stages, viz. the cold, the hot, and the sweating stage; and they succeed each other in the order in which they have now been mentioned. This succession or sequence recurs on is repeated at regular intervals. When it is repeated every day the fever is termed a quotidian. When it is repeated every other day, it is termed a Tertian: and when it recurs only every forth day, or after the intervention of two whole periods of twenty-four hours each, it is then called a quartan. &c.

Of the cause of this Periodicity we know nothing. Many theories have been suggested, some of them ingenious enough,

lent none of them satisfactory. After the Periodicity has been once established, indeed, we can call to our aid the power of habit, and thus, perhaps, account for its persistence. But this is rather evading than meeting the real difficulty.

— It would seem that there is such a thing as becoming seasoned to malaria. For the natives of malarious regions are certainly much less liable to be attacked with fevers, than are strangers; and they can sometimes hardly be brought to acknowledge that their birth-place is unwholesome. But yet even the natives of these regions do not entirely escape. For tho' they are not so readily affected with acute disease caused by malaria as are strangers; yet it is said that chronic morbid changes are wrought

upon them; that they become cachectic, are feeble and languid in body and in mind, and exhibit many marks of a general deterioration of health. Repeated attacks of ague are apt to leave lasting lesions. Among the most constant and remarkable of these, is enlargement and (sometimes) induration of the Spleen. — The Spleen in persons who have suffered repeated attacks of malarious fever has been known to become so enormously enlarged as to acquire the weight of 11 pounds.

Upon the treatment of malarious diseases it is not my design to enter. I will only remark, that That Providence that for wise tho' inscrutable reasons has suffered the plague of malaria to spring from the earth, has brought up, also, from the same source its antidote and

cure: and the graceful Cinchona Tree,
upon the mountains of Peru, spreads
its branches, literally, "for the healing of
the nations." — Cinchona Bark, especially
its active principle Quinia in some of
its preparations, when exhibited with cir-
cumspection and judgment, relaxes
fails to triumph at least over the
ordinary forms of malarious disease.

An Inaugural Dissertation

ON

Intermittent and Remittent Fever

Submitted to the examination

of the

Provosts Regents and Faculty of Physic

for the

Degree of Doctor of Medicine

by

A L Heermann

Thus with the entrance of the first born man,
The reign of science o'er the race began,
Nurse of his weakness, soother of his woes,
She waits and watches till his summons close,
Nor yet she leaves him when the undying wind
Flits from his frame and leaves the clay behind.
Were men immortal, who had ever seen
The stomach, colon, pancreas, or spleen?
If thou should'st wonder that mankind must die,
Ask the curators of the cabinets why.
Each pickled viscus, every varnished bone,
Seducing schirrus and attractive stone,
Lost to the world had never come to grace,
Our well ranged vials in their padlocked case.
Unknown to fame had great Morgagni sighed
And Louis floated down oblivions tide.
On Brunners glands no cheering ray had shone
And Peyer claimed no patches but his own.
Science untaught her scalpel to employ,
Had seen no gleam since the siege of Troy.
And man the ruler of the storms and tides,
Had groped in ignorance of his own insides.
As the same art which caught our earliest breath
Lives with our life, and lasts beyond our death,
Man, ever curious still would seek to save
Some wreck of knowledge from the wasting grave.
Yet keen eyed searcher into natures laws,
Slight not the suffering, whilst thou seek'st its cause.
How poor the solace when thy patients die
To tell the mourners all the reasons why.
Love, linked with knowledge crowns thy angel art,
Gold buys thy science, Heaven rewards thy heart.
Between two breaths, what worlds of anguish lie,
The first short gasp— the last a long drawn sigh.

O W Holmes

Intermittent and Remittent Fever

We treat of these two fevers together because we consider them as spentially the same differing only in the degree of theese intensety. Thus we may have a marked case of intermittent and also the same of remittent but we may also have them running one in the other by such insensible shades of difference that it would be difficult to give a decided opinion on the disease before us. Thus if we have a perfect intermission from fever we call it intermittent, if it be imperfect we call it remittent and we may have an intermittent passing in a remittent and the contrary may also happen

Intermittent fever is a fever composed of paroxysms recuring at certain periods, between which we have a perfect freedom from all fever. These periods are at fixed times, thus we have Quotidians or paroxysms every day,

Tertians every other day, Quartans every fourth day. Quintans every fifth day and all these types may be doubled by their modifications.

We have as premonitory symptoms of an intermittent, great lassitude, frequent yawning and stretching, uncomfortable weariness of the whole body and sometimes aching in the loins or extremities. These symptoms continue from two to ten days when the paroxysms caracteristic of an intermittent fever show themselves

Each paroxysm of an intermittent fever is is divided in three distinct parts

1º Chill or cold stage

2º Fever or hot stage

3º Sweating stage

Let us now examine each one of these stages as they follow each other in their natural order.

1º The Chill or Cold Stage is generally ushered

in by a sensation of chilliness, a feeling of
languor, the skin becomes pale dry rough
and shrivelled, the limbs are diminished in
size, the temperature of the body becomes
lower than usual, the patient trembles and
draws himself up in the smallest possible
space to try and warm himself, the muscles
are often in a rigid and contracted state,
the face hands and feet sometimes becoming
of a livid colour, the attention is with
difficulty fixed, appetite squeamish, pulse
small contracted frequent and firm, eye
dull and hollow, respiration hurried anx-
ious and oppressed, drowsiness and even coma
comes on in those of a debilitated consti-
tution. In this stage the blood retires
from the surface and we have congestion
of all the internal organs; of which we
have abundant proofs by the post mortem
examinations. This first stage lasts from

half an hour to four hours.

2d Fever or Hot Stage. This stage following the cold stage shows its first symptoms by the circulation again returning to the surface, the superficial veins often appearing like cords, the pulse rises, the skin becomes hot tense and dry, headache and delirium often occur, great thirst, face flushed and a hurried respiration. This stage lasts from three to twelve hours.

3d Sweating Stage follows the hot by the skin becoming softer and moist, the sweat first appearing on the forhead breast arms and legs, pulse full but without harshness or frequency, respiration becoming free and natural, the thirst diminishes the urine becomes copious and the patient becomes gradually easier in his feelings, his appetite returns and the patient is well excepting a feeling of

weakness and exhaustion which remains after his having passed through these different stages. The sweating stage lasts from three to four hours.

These paroxysms last from two to eighteen hours and may repeat themselves for many years. Indeed we have one case mentioned where they lasted a life time. All ages are liable to this fever but more frequently those of a middle age. Men are more exposed to it than women by their occupations. Bad health, general weakness of the body dispose a person to be affected by this disease. A person not having lived in a malarious district is very much exposed to it by going to reside in such a district.

The exciting cause of this fever is malaria or marsh miasmata arising from the decomposition of vegetable matter in

marshy districts. Our reasons for so believing are, that the disease is prevelant in the neighborhood of marshes, we do not find this disease in districts free from marshes and lastly very few persons have it that have not been exposed to these miasmatic exhalations. Thus to our knowledge during the past summer nearly every house along the shores of the Delaware River had one or two of its inmates attacked with this fever while those half a mile back on elevated situations never suffered from anything of the kind. During a short residence at the Alms House of Balto we have seen many patients coming from the Mine Banks on the Patapsco River, a district which is malarious in the highest degree. We had some few patients from the city and we universally found that in tracing back

their history, they had been exposed in some district when the marsh miasmata was prevelant. We have also seen many persons residing along the course of the Patapsco River and all of them had that dirty straw coloured tint, commonly called agnish face, while but a short distance from the river this hue disappeared to give place to a healthier one

As to the treatment of this disease it can be carried on either during the intermission or during the paroxysm but as regards the latter our treatment would sooner be an alleviation than a cure of the disease Our principal remedy is Quinia of which we give a large dose immediately after the paroxysm and then smaller ones of ten grains at intervals of six or eight hours. each. We try all means to stop the paroxysm from returning because each

paroxysm weakens and debilitates the patient. This treatment is continued even after the disease appears to be cured for if we left it off directly it might return. Thus in some cases where we find the the patient is liable to it we would continue this treatment for two or three weeks after the apparent cessation of the disease. During the cold stage we would give the patient warm drinks without their being stimulants, cover him warmly, place hot bricks at his feet and try every means in our power to make him pass from the cold into the hot stage. We have seen the cold stage very much shortened by applying the tourniquet to the extremities and stopping the course of the blood in the femoral and brachial arteries. Opium has been used sometimes with great succes to shorten and alleviate the cold stage, by its action

often quieting the pain and convulsive shaking

When the Hot stage comes on we give cool acidulated drinks, take off some of the clothes and use a bath or warm effusion. Should symptoms of organic disease then supervene we would use a more decided treatment as abstraction of blood by leeches or cups and even in some cases general blood letting might be resorted to. During the sweating stage we may give him warm diluent drinks taking care that he experiences no sudden change of temperature. We abstain from narcotics of any remedy which can debilitate the patient for after this last stage nature is exhausted and wants repose, therfore remedies of this nature would be injurious and unnecessary and in consequence contra-indicated

Remittent fever is that form in which there are regular exacerbations and remissions of the ~~paroxysm~~ paroxysm in the twenty four hours.

The symptoms of the forming stage of Remit^t. fever do not differ essentially from those of intermittent for we have languor, aching in the back, head and extremities, bowels inactive, an unpleasant metallic taste in the mouth. skin sallow etc. When the disease is fully established the whole system is flushed and excited. pulse frequent small and irregular, fauces dry and clammy, tongue furred, respiration hurried and oppressed, nausea at the stomach excretions from the bowels are blackish, the urine scanty and tinged with bile. The above symptoms continue from five to ten hours when a gentle perspiration breaks out and they subside but the

skin is preternaturally warm and the pulse irritated. This remission generally lasts from three to four hours when we have another paroxysm supervening of equal or greater intensity and thus the disease continues until either convalescence or death ensues.
When a remittent fever attacks a patient suddenly and vehemently we can generally prognosticate a highly dangerous form of the disease of which we will mention some of the worst symptoms tending towards a fatal result, viz, very little remission, bloody exudation from the gums and fauces, hemmorage from the nose, subsultus tendinum picking the bed clothes &c. In these severe cases death generally comes on from the fourth to the eighth day.
The malignant variety of remittent generally commences with feelings of languor, general

collapse of the vital powers and great depression of the circulation.
After this follows reaction with great pain over the eye brows. feeling as if the skull was girt with a cord, the skin is dry hot and harsh, countenance flushed and purple with an appearance of collapse and great pain, tongue clammy and coated with a yellowish fur, sometimes rough dry and brown. This state generally continues for twelve hours when we have a remission lasting from five to six hours.
These paroxysmes continue on, increasing in their intensity being complicated with disorders of the liver, alimentary canal and brain, and this assertion we find fully exemplified by our post mortem examinations.
The causes of this remittent fever are the same are the same as those of intermittent and

all that we have said of age, climate, sex, constitution etc in speaking of intermittent applies also to Remittent fever.

In our treatment we try to moderate the febrile action, to remove irritating matters from the primae viae, to obviate gastro intestinal irritation and to restore the healthy functions of the body. Quinia is here as in intermittent our principal agent and the most powerful that we have in the course of this disease. The practioner determines the dose to be given by the intensity of the disease which he has to deal with. By an analysis of the blood made during a residence at the Balt° Alms House we found that there was a diminution of saline particles in its composition. On account of this we administered salines (Chlor Potas et Bicarb Sodae) during the course of the disease and we

found they had the most salutary effect on the patient by the restoration of the blood to its proper tone and to its normal consistency

Let us now examine the Post Mortem appearances.

In the Head we find often the arachnoid membrane more injected than natural and frequently too large a quantity of serous fluid upon the brain and in its cavities, this fluid presenting different appearances, clear, turbid or even bloody according to the intensity of the disease

In the Chest we find the lungs soft, sometimes filled with a frothy red mucous fluid, the bronchial tubes red and thickened, the blood in the heart and arteries fluid and of a dark colour, the substance of the heart itself soft and very easily penetrated with the finger

Stomach, the mucous membrane softened, mammelonated and in some places pointed injection.

Intestines Brunners glands enlarged and the mucous membrane a red and inflamed appearance.

Liver very much enlarged and of a bronze slaty hue

Spleen large soft and pulpy

From the remarks that we have made on these two diseases with regard to their nature symptoms etc we see that they are but types of the same disease, but if we examine into their pathology we find that in both the brain chest and brain we have important lesions but the distinct difference between the two is that in remittent we have inflammation of the stomach and duodenum which (according to Dr Power) keeps up the fever

during the remission. these parts being always found in a state of great alteration after death.

We will now speak of two or three cases of Remittent fever of which we took notes of the disease by the bedside and we will see how far the remarks that we have made on this disease are correct.

Andrew Shultz Act 42. Entered hospital from the mine banks Sept 9th 1844, has had fever and vomiting for more than a week but no chill according to his recollection. He took castor oil a day or two previous to his entrance which operated freely, for three days he has been half comatose, at present lies on his back, speaks with difficulty, very averse to answering questions prostration great much emaciation, tongue coated yellowish white, cold clammy sweats pulse 105 and feeble, remarkable dullness

in the lower part of the right lung and want of respiration. No pain over stomach liver or spleen and abdomen much sunken Applied blisters, give calomel guinine carb ammonice camphor etc. He remains in the same condition gradually becoming more prostrated and his tongue blacker until 6 days after his entrance when he died. During all this time no remissions were observable

Autopsy eight hours after death

Head membranes natural, cerebral substance injected, red points quite numerous, no serum in the ventricles.

Chest Pleuritic attachment on right side

Lungs healthy except slight emphysema

Heart softened internally pale

Abdomen. The liver much larger than natural pushing up the diaphragm and compressing the lungs, Externally of a

slaty bronze hue; right lobe more softened than left, cut surface presents a shining appearance and the two colours are commingled. In the substance of the right lobe about an inch below the upper surface there was a small cavity with circumscribed walls lined by a membrane. This cavity was about the size of a filbert and contained a clot of dark blood

Gall bladder enormously distended containing a dark grumous fluid resembling molasses.

Splen five times its natural size, dark purple and softened to a pulp

Stomach mucous membrane of a greyish colour at the cardiac end, somewhat softened and mammelonated at pylorus.

Duodenum Brunners glands very much enlarged

Ileum healthy Peyers patches very perceptible

Colon injected and of a dark slate colour
External appearance Joints very rigid and
a yellow tinge over the whole body.
Remarks. In this patient the autopsy
showed the liver much enlarged, particular
ly the right lobe which must have
caused the remarkable dullness heard in
the lower part of right lung. As the
liver is nearly every case ℣. enlarged
would it not be well always to examine
the lower part of right lung. Another
point of interest is the clot and cavity
of the right lobe of the liver. We learnt
that this man had had an attack of Remitt
ent fever 12 months before, How far we
can consider this cavity and clot as the
remains of a previous softening of the
liver by remittent fever it is not in
our power to determine.
Let us now examine another case

John Cornman aet 35 a geman entered the Hospital on Sept 7th in nearly a comatose state, it was thought he was suffering from the effects of drink and an emetic was administered. In the evening of the same day after having vomited a greenish colored fluid, his condition was as follows. His mouth and fauces filled with a frothy fluid which he was not able to get rid of by vomiting and which threatened to strangle him, tongue moist and covered with a yellowish white fur, skin moist and hot. pulse full and bounding 120 in the minute, no evidence of pain on pressure over any part of the abdomen no delirium but stupor very marked, pupils contracted, sibilous and sonorous rale over all parts of his chest. Sulphas Zinci et cupri were given and afterwards brandy and carb ammoniae without effect. He was raised

in the erect posture and bled to ℥x, with mustard plasters to trachea, under which treatment his breathing became easier. Sulphas Ammoniae with brandy and carb ammoniae were administered during the night and in the morning the patient was so much improved that he got up and arranged his bed. He said he came from the Mine Banks, had been sick a week and was taken with a chill and vomiting. Still very stupid tongue coated yellowish white, skin hot pulse at 106. This day and the next his symptoms continue the same he being half comatose all the while.

Sept 9 (Night) Found the patient lying on his back eyes closed, perfectly comatose, hands when raised fall like inert masses breathing very laboured 60 in the minute, rales throughout the whole of his lungs, skin moist and hot. Pulse full and

bounding, ℥XX of blood were abstracted but without the slightest effect on his pulse. another vein was opened shortly afterwards and ℥XXII were taken. His breathing became less laboured and slower, pulse had still considerable strength, patient comatose, pupils natural. blister to nape of neck and abdomen. Minim brandy and carbonas ammoniae through the night.

Sept 10 Patient sensible but stupid, skin hot. pulse better, skin rather dark but still moist, the condition on the whole much better than the preceding night. rales still continue. Minimae to day and the day following, comatose state continues and no distinct remission in the fever.

Sept 11 (night) another well marked congestive stage, symptoms like the preceding but much agravated, pulse still frequent but had lost its strength,

tongue black in centre and dry. ℥ss of Liquor
by mouth and antas were given but he died
24 hours after last attack
Autopsy 14 hours after death.
Joints very rigid trunk and face with
conjunctiva tinged yellow.
Brain membranes natural except pia
mater which was infiltrated with a
turbid yellow serum, cerebral substance
injected, red points very perceptible, about
℥ii of serum in the cavity of the arachnoid
Thorax Heart softened and flabby, internal
membrane pale, bronchial tubes filled
with frothy serum and mucus, mucous
lining intensely injected, lungs gorged pos
teriorly
Abdomen Glands Peyers patches perceptible
but otherwise healthy
Stomach bright red injection at cardiac
portion, mucous membrane not softened

except at pyloric end which was of a dark slate colour, surface mammelonated.

Duodenum mucous membrane slate coloured Brunners glands very perceptible.

Liver slightly enlarged, slaty bronze externally and internally the two colours commingled, substance softened particularly right lobe, cut surface shining.

Gall bladder distended with a grumous fluid resembling molasses

Splen Four times as large as natural of a dark blue and softened to a pulp.

N B. If my patient reader has got this far, and if he desires to know why I went no further, let him ask me and I will tell him the why's and wherefore's

Adolphus L Heermann

January 1st 1846.

Balto.

An

Inaugural Dissertation

On the

Historical Progress of Surgery.

Submitted to the Examination

of the

Provost Regents and Faculty of Physic

of the

University of Maryland

for

Degree of Doctor of Medicine

by

James H Williams

In attempting even the most indefinite outline of the general history of Surgery, as a healing art, as received by us. From its first disciples, we are at once at a loss. for authority worthy of Credit, and indeed in want of authority, without the qualification of the latter quality. True, we admit this effects but little the present state of our Science, or in any way Concerns its true origen: the starting point of our subject. When to define its true birth, or at what period, the duties, of the Surgeon, were first Called into requisition, is a matter, about which, authors have for ever differed. The term Surgery or Chirurgery, as derived from the Greek. strictly means manual procedure by the hands, or otherwise. directed to the repair of injury and cure of disease. By this definition we find it in contradistinction to the practice of medicine; which denotes the cure of disease by the Administration of drugs. We will here content ourselves. with this definition

tion, as to quite sufficient to comprehend all the duties of the then degraded and ignorant Surgeon, who was the mere dependant on, and dupe of the learned Physician — If we allow ourselves a little thought; and for a moment wander up the stream of time, we immediately infer that Surgery is as old as man himself; and coeval with his fallen state. The fall doubtless entailed frequent dissentions and thereby the reception of injuries by external violence; to assuage the pain and remove inconvenience, the ingenuity and contrivance of the sufferer was powerfully excited. Of the state of Surgery in early Egypt, we know but little, nor do we know any thing except, that 'twas a custom in the days of Joseph to embalm the dead — a process appertaining a little to Surgery & Medicine. It is well however to remark, that Surgery was perhaps better understood & perhaps better practised among the early Egyptians than most are willing to admit. Among the ruins of ancient Thebes are evidences, that

Surgery was then an art, and was then practised: Larrey remarks: "that when Gen Desaix had driven the Mamlukes beyond the Cataracts of the Nile, the Commissioners of Art had an opportunity of visiting the monuments of ancient Thebes and the unroofed temples of Tentyra and Karnack. - It is upon their walls and ceilings of these temples, that basso-relievos are seen, representing limbs that had been cut off, with instruments very analagous to those which are employed at the present day in amputations." Among the Jews, circumcision was a requisite to the rights of their religion - an operation performed, doubtlessly, with dexterity and success, though, perhaps with rude and clumsy instruments. Our earliest Knowledge of Surgery is derived from the Greeks, who probably obtained their Knowledge from the Egyptians. They believed medicine to be of divine origen, and tells us, that its professors were of no less dignity, than Gods and Sons of Gods. Originally medicine and Surgery were conjoined and practised indiscriminately, till

partially separated by the Arabian school. Its complete separation took place in the 12th Century, about the time Surgery was denounced by the Council of Tours - as being unfit for the hands of Priests and men of letters: the Surgeon being then a kind of professional servant to the practitioner. Chiron born in Thessaly, is thought to have been the father of Surgery: his practice extended but little the father, than the mere application of herbs to bruises & wounds: and for which he was celebrated. But the fame of Chiron has been challenged by that of Asculapius, the son of Apollo: and by some held to be the pupil of Chiron; by others again thought to be his predecessor & superior. Again, by others, the very existence of Asculapius has been questioned. But certain it is, according to the testimony of Ancients, Asculapius is the most ancient authority in Surgery - who in honor of his knowledge, was, deified, about 30 years before the Trojan war. His two sons, followed Agamemnon to the Trojan -

war, and form not unconspicuous characters, in the Immortal Poems of the Iliad and Odessey. Of the two, Machaon seems to have been the more celebrated, for when wounded by Paris, even the stern Achilles enquires anxiously after the "wounded offspring of the Healing God". Podalarius enjoyed the reputation of being the first Phebotanist and probably the most successful from his time to this, at least so far as pecuniary interest is concerned. Their knowledge of surgery seems to have been very limited, extending no father than the arresting of hemorage, extracting of darts and other missiles, together with the application of lenitive salves. For nearly 600 years after the Trojan war, surgery seems to have been nearly stationary. During this time, surgery was principally taught and practised by the discendants of Asculapius who gave their instruction orally from father to son. Several schools were established, the principal of which, was at Cos, and which gave to the world

Hippocrates. Pythagoras and Democritus (B.C 600), were the first to bring phylosophy to bear, upon the healing art, and the first to lead the way in raising it to the dignity of a science. Of the advancement of Surgery at this period we Know but little. Damocedes a Contemporary of Pythagoras, who practised in Athens, seems to have been the best practitioner of his age - King Darius was entrusted to his Care for a dislocated ankle, and the queen of Atossa for Cancer of the breast. As to the treatment, the means employed, or the success we Know nothing. We Cannot however suppose such men, as Machaon Podalarius, Pythagoras and Democritus, to have attained any great eminence, or indeed any great Skill in their profession, as 'tis well Known that to touch a dead body, was not only discountenanced, but Considered a profanation by both Jew and Greek; Consequently they must have Known but little of Anatomy. Possibly they

knew something of the skeleton from their dealing with fractures, and dislocations. and tis probable they formed more definite ideas of the viscera, from their resections in comparative anatomy, and from instructions from the Egyptians, whose practice 'twas to embalm the dead- which process afforded ample opportunities for instruction. of the minute anatomy of the human body they were entirely ignorant- indeed to them 'twas a perfect enigma.- and since Anatomy is, was, and ever must be, the true foundation for surgical Knowledge. and eminence, we at once infer, that surgery, though sometimes honored. and successful, in ancient times. must have been an imperfect and uncertain. art; the practice of its professors extending, but little farther than the binding up of wounds: staunching of hemorage by styptics; extracting darts and other missiles from wounds: phlebotomy general and local, together with the appli-

lication of Cases - Hippocrates born in the 80th Olympiad. in the Island of Cos, about 400 years before the Christian era, gave to Surgery and Medicine a new impulse. He freed medicine in a measure of many of the absurdities, with which Ignorance and Superstition had entangled it: and through his fame the Coan School soon raised above its rivals - In the hands of this great man Surgery and medicine did not make equal advancement. The latter attained the greatest eminence. He, however, was not wholly inattentive to Surgery but on the Contrary practised it with more boldness than any that had preceded him. He informs us, that; when medicine failed in external disease - recourse must be had to the Knife. and when the Knife failed. to fail" - This was his favourite - for he applied it in all Cases, that he could make the least plausible excuse for so doing. Many of the Capital Operations he performed with boldness and success.

He not only used, but abused the trepine; using it in many instances for simple headache. He treated fractures and dislocations, and some writers assert. he extracted the fractures with the forceps - In empyema after having ascertained the presence of fluid in the chest he did not hesitate to make incision and allow the fluid to escape. Tetanus and Spontaneous he was well acquainted with; for he mentions, that minute wounds of tendinous parts, as the fingers and toes, sometimes produce Convulsions and death; and that black spots on the feet frequently increase to extension gangrene incurable mortification. But many of his practices have long since been exploded; others again have been properly appreciated and continued to the present day. His anatomical Knowledge was, doubtless very limited; the sanctity of the dead proving an insurmountable barrier to the study of that branch of Surgery. It is asserted by many that he had some

idea of the circulation of the blood; but certain it is, he was far from anticipating the great discovery of Harvey — for not until the days of Pythagoras of Cos, who flourished long after Hippocrates, were the arteries distinguished from the veins; and a much longer period after, that a ligature was applied to assist hemorrage by Xenophon. After the time of Hippocrates surgery, again, becaming stationary; and for many succeeding generations it made scarcely any advancement. On the dismemberment of the vast empire of Macedon, after the death of Alexander the Great, learning took up its abode at Alexandria. Here it was, that popular prejudice first gave way, and allowed, the dissection of the dead-bodies of Criminals. A certain Andreas, about this time wrote, on the union of fractured bones; and invented several machines for reduction of the former; this being the first instance we have

of fractures or dislocations being understood or written upon. The Surgeons of the Alexandrian School were principally noted for the nicety and complexity of their dressings; and among them as in the time of Hippocrates. Lithotomy was performed by certain individuals, who devoted themselves entirely to that branch of Surgery: and a certain Ammonius is said to have used an instrument for crushing stone in the bladder, similar to those employed by Celsus. After the loss of the national library in the time of Julius Cæsar, Surgery like the arts and Sciences. Again made a transfer to the Roman Capital. Notwithstanding the shrewd sense generally displayed by the early Romans, it is strange to say, that they from the Censors down to the plebian rabble, entertained for lings of the greatest abhorance, to all practitioners of medicine and Surgery; and trusted for cure to Spells and incantations. Even the

Cato, gravely wrote down the words of incantation for cure of dislocation and fracture. Rome in itself did not produce a single practitioner of any note, like the age of Pericles. He was conversant with all the true surgical and medical knowledge of his time: though 'tis not certain whether he either practised medicine or surgery. But certain it is, that many of his opperations are far from being obsolete at the present time. His rules for distinguishing fracture, and for application of the trepan are highly eulogised. He first described the opperation for cataract, by depression, and the method of performing artificial pupil. He described several species of Hernia, and gave rules for reducing them. About this time blisters were first introduced into Surgery, and the ligature applied, for the restoration of hemorage, after pressure had failed. Arteus, born in

Cappadocia, practised in Rome in the time of Domitian. He followed Celsus very closely in most points of Surgery; and first made use of Cauthanadeia for the purpose of bleeding. He, However was a strong declaimer against the operation of Bronchotomy; urging as argument, that the untoward symptoms of Suffocation, were thereby increased, and finally that the wound would not heal. The exact period in which Antyllus lived is not exactly known; some assert him to be a Contemporary of Arteus; others again that he lived not till A.D. 340. He was a bold recommender of Bronchotomy in Cases of threatened Suffocation, from disease of the throat; and indeed in many Cases that we think not advisable. He practised arteriotomy in preference to phlebotomy, thus proving the ligature to have been in Common use. His method of operating for aneurism was to apply the ligature above and below the aneurism; then

incise the cist: turn out coagula and allow the wound to fill up by granulation. He allude to cataract, and recommends its extraction. When 'tis very small. He also affected cure of hydrocel by free incision of the part. Claudius Galenus after studying at Smyrna and Corinth, and finally completing his education at the Alexandrian School: settled in Rome. Where he soon obtained an enviable reputation as a successful practitioner both of medicine and surgery. He was a man of learning, brilliant genius, and untiring industry. Professional jealousy however soon drove him from Rome: to which he did not return for many years after. He was the first to describe the luxation of the femur backwards a variety not mentioned by any of his predecessors: in his writings we find many bold attempts at chirurgery. though he was far from being a bold surgeon. During the fifth Century, the west was Continually convulsed by wars. and the

frequent attacks of the Huns. Goths. Lombards
&c. Science consequently suffered; and no name
worthy of notice appears for several century after.
Aetius we find is the first. His writings are
voluminous, and contain many suggestion that
had escaped both Galen and Celsus. He prac-
tised Scarification in Anasarca, and made
use of actual Cautic; he removed various
kinds of tumors and even tried to dissolve
urinary Calculi. He wrote learnedly on inflam-
mation of the intestines. followed by abscess;
incisted tumors, and several varieties of hernia.
He was also familiar with diseases of the
eye, & was the first to write on that subject.
We can mention but few other advances
in Surgery, till we came to trace its
feeble prolongation in Arabia. Alexander
of Tralles, a famous physician lived about
this time; and by most is thought to have
been a man of more originality in Surgery

than his predecessor Aetius. He improved the
operation for Lithotomy; and was pre-eminent
as an accoucheur, being the originator of the oper-
ation of Embryotomy. We have now traced Sur-
gery, from its probable origin, through the Egyptian
Greek and Roman dynasties, and would in course
come to its existence in Arabia. But time and op-
portunity prevent us from proceeding to its
farther progress in the present day.

An

Inaugural Dissertation

On

Digestion

Submitted to the Examination

Of the

Provosts, Regents, and Fac-of Physic

Of the

University of Maryland

For the

Degree of Doctor of Medicine

By

J. D. Mitchell

Of

Hagers Town - Md.

To

Samuel Chew M.D.

This Treatise on Digestion is Respe-
-ctfully inscribed as a meagre acknow-
-ledgement of his faithfulness as
a Teacher and kind attentions to
his

Pupil

F. D. Mitchell

On Digestion

In selecting this subject for an Inaugural Dissertation I feel deeply sensible of my incompetency and utter inability to do justice or even to give the faintest semblance of justice to it. It is a theme which has called forth the efforts of some of the loftiest geniu's both of ancient and modern Times — one in which the pens of some of our brightest luminaries have been employed with the most dilligent assiduity and one in which "theory and speculation have luxuriated in their wildest exuberance" — Experience, deep research, and minute observation have at last partialy dissipated the misty veil which

had hitherto involved this most interesting subject— and so far as my feeble powers will admit combined with the aid which I must of necessity receive from Authors I will insert in the most concise style and I hope in the most intelligible manner the nature and history of this intricate process of Digestion

I propose 1st to demonstrate the Anatomy of the organs of Digestion and the functions assigned to each—

2dly to speak of the Laws of Digestion and some of the Theorys which have been advanced respecting it

and

3rdly To present the most approved course by which their regular

and healthy functions may be maintained

The first principal

step in the intricate process of

Digestion is that by which the

food after being taken into the

mouth and brought into contact

with the salivary juices is subjected

to the action of teeth by which it

is disorganised and broken down

until it becomes of a sufficiently

soft and pulpy character to be

taken into the stomach. The

chief agents in this process are

the teeth Jaws and muscles connected

cted with it together with the

tongue and salivary glands

it is unnecessary to enter into min

ute detail of the formation

growth and medium of nutrition

of the teeth. but I will pass on

to the next principal organ subse-
-quient to digestion namely the
Oesophagus. before I proceed to desc-
-ribe this it may be proper to re-
-mark that at the posterior part
of the mouth there are three canals
or openings leading in different
directions. one upward and forward
into the nose. the other downward
and in front into the trachea. and
the next downward and backward
into the oesophagus this latter is
the course taken by the food. the
Oesophagus is a musculo membranous
canal extending from the lower part
of the pharynx to the upper orifice
of the stomach and situated betw
-een the Trachea and vertebral colu
-mn its outer surface is smooth and
is composed of two layers of muscular fibres

the external being thick and strong and running in a longitudinal direction- while the internal is thinner and runs in a transverse direction it has also a mucous membrane which lines its internal surface and has interspersed throughout its surface mucous follicles which are intended to secrete a mucous for the purpose of lubricating the passage and consequently facilitating deglutition- the office of the oesophagus is to convey the food from the Pharynx into the stomach for the food does not pass downward by its own specific gravity but rather by the alternate contraction and dilation of the muscular fibres of the canal- The next most important organ and the agent immediately concerned in digestion is the stomach which is a musculo membranous reservoir situated below the diaphragm between the Liver and Spleen and occupying the epigastrium

and a portion of the left Hypochondrium
it has two apertures, the left or cardiac
which is the termination of the oesophagus
and the right or Pyloric extremity which
is the beginning of the Duodenum and which
consists of a duplicature of the two inner tunics
which extend into the passage dividing the
stomach from the intestine and furnished
with muscular fibres termed the Sphincter
Pylori— the stomach has three membranes
a serous, Muscular, and Mucous which are
amply supplied with vessels and nerves
the outer membrane is merely a peritoneal
covering— the next is composed of fibres
which run in different directions viz—
Longitudinal, circular and oblique
the last or mucous membrane lines the
internal surface of the stomach, and
is of a pale pink color, and filled with
villosities which are always covered with

an abundant viscid fluid — when the stomach is empty this membrane presents numerous wrinkles which are denominated rugæ. Having now described the stomach we will enter into the minutiæ and give the function appropriated to each distinct coat commencing with the peritoneal coat. This latter is a fold of the peritoneum which is derived from the latin word Peritoino signifying to extend around — its use is to strengthen the stomach — to aid in retaining the other organs in their proper places and by the smoothness and constant moisture of their surfaces to permit them to move with facility upon each other thereby obviating friction — The second or muscular coat subserves a valuable purpose in Digestion for by the combined action of its different fibres the stomach

is enabled to contract and shorten its diameter so as to accomodate itself to the quantity of its contents, while by its successive action a kind of churning motion is effected which keeps the food in motion and consequently facilitates digestion by effecting a more intimate union of it with the gastric juice. The course which this alternate contraction causes the food to pursue is according to some Physiologists as follows. The food on entering the cardiac orifice turns to the left follows the great curvature of the stomach toward the Pylorus, returns in the smaller curvature and appears again at the cardiac orifice, then descends again keeping up this revolution until digestion is completed. The next coat which demands our notice is the mucous coat

which is the internal lining and is covered with rugae or folds together with a great number of glands or follicles it is a point of contention among Physiologists whether these follicles secrete Gastric juice or the mucous which lubricates the intesion of the stomach, this latter opinion however is most in vogue - The stomach is also well supplied with vessels and nerves the former of which consist of the Coronary artery and the Pylorie branch of the hepatic - it is supplied with nerves chiefly from the Pneumo Gastric - The next organs concerned in digestion are the intestines which although a continuous canal is nevertheless divided into 6 portions We will first make a few remarks upon the Duodenum which is principaly concerned - and which in conjunction

with the Liver and Pancreas perform the important office of chylification. in structure it bears a striking analogy to the stomach being composed of the same number of coats viz a serous - muscular and mucous - so far as nutrition is concerned this latter membrane is the truly essential part of the intestine for it is in immediate contact with the chyme the product of which is taken up by its vessels and distributed to the general system - the muscular coat being useful only in transferring the power of forcing down its contents - the Duodenum takes its name from the fact - of its being equal in length to 12 fingers breadth in its course it describes a figure like the letter C its convexity lying to the right - while in its concavity lies the pancreas - it is fixed

by a membrane to the spine and consequently is not left free in the cavity of the abdomen, this seems to be a wise provision of Nature for if it had been otherwise it would not only have aided in dragging down the stomach and thus impeded digestion but also disturbed the relative positions of the Pancreatic and hepatic ducts — The Duodenum is much less in size than the stomach but larger than the Jejunum and Ileum it has been termed a second stomach in view of the important changes which are effected in it — the other remaining portions of the Intestine are the Jejunum, Ileum, Caecum, Colon, and rectum which scarcely deserve any comment here since they execute but minor ends in the process of assimilation (at least comparatively speaking) I will merely observe here that there is a

valvular arrangement at the entrance of the small into the large intestine which prevents the regurgitation of their contents — But two other organs remain now to be described namely the Liver and Pancreas the former of which constitutes one of the principal auxillaries to digestion — the Liver is the largest of all the glands and is situated in the right Hypochondriac and that part of the epigastric region which is beneath the diaphragm and above the Stomach duodenum, Colon, and Kidney — it is divided into 3 lobes having also several depressions and fissures besides the folds of the peritoneum which are the ligaments intended to attach it to different organs and thereby retain it in its proper position — The Hepatic duct

we are ignorant of - another adjuvant to digestion we have in the existence of the Pancreas which is a gland weighing from 3 to 6 oz situated behind the stomach and in appearance analagous to the salivary glands - indeed its secretion also seems to have the same properties as that of the saliva its canal also terminates in the duodenum and contributes in some unknown way to assimilation - Having now described the Anatomical peculiarities of the organs of Digestion which although very superficial will nevertheless serve to elucidate their modus operandi - we will pass next to the consideration of the Laws of Digestion, before however we proceed it may be proper to make a few remarks about Hunger and its exciting causes —

hunger as is well known is that sensation perceived within us the end of which is to proclaim the need of more nourishment in the system - different speculations have been rife with regard to the exciting cause of hunger one set of Physiologists define it to be irritation of the nerves of the stomach produced by the gastric juice but this doctrine is untenable from the fact of there being no secretion of gastric juice when the stomach is empty as was proved by the experiments of Dr Beaumont - it was next imagined that the mere emptiness of the stomach was sufficient to cause hunger by its sides coming into contact and producing friction to this also it may be answered that the stomach contains a quantity of air which prevents the apposition of its sides - it is however an established fact

that an obvious relation exists between hunger and the wants of the system — for instance if a good deal of waste be effected from the lungs and skin by exhalation the appetite becomes more urgent to repair that waste — indeed there is an intimate sympathy existing between the condition of the stomach and every part of the system in view of which the appetite is keenest when the system requires materials for repair — and the reverse when little waste has been effected.

We will now take a view of the different stages of preparation which the food undergoes after being taken into the stomach, and before it is assimilated into a constituent part of the body — 1st when the food is received into the stomach it is subjected to the action of the gastric juice, which exists

a solvent-power upon it and eventualy converts it into a soft pulpy mass denominated chyme- this latter as soon as it is formed is forced into the duodenum where it is brought into contact with the biliary and pancreatic products- these two secretions convert it into 2 different portions- the one a white fluid termed chyle- the other a thick yellowish matter which is the excrement the chyle is then absorbed by vessels which I before stated were interspersed throughout the substance of the mucous membrane which are termed lacteals- these vessels converge into a large trunk designated the thoracic duct- which extends from the third lumbar vertebrae as far as the subclavian vein where it empties and whose office it is to convey the chyle into

the circulation - but although the chyle is thus incorporated with the blood it has other important changes to undergo before it is fitted to perform its office in the animal economy - these changes are to be effected by the transmission of the chyle together with the dark venous blood through the lungs and there to receive that vivifying principle which will enabled it to impart nutriment and growth to the system - these changes are termed sanguification - the residual which was left in the duodenum is then carried by the peristaltic motion of the intestinal canal downward receiving in its course much additional waste matter which is finaly all voided in the character of faeces - Having now given the functions of the organs concerned in

digestion - Together with the changes effected in the food we will make a few remarks upon the conditions necessary in order that digestion may be properly performed - the first of these is an ample secretion of gastric juice together with its thorough admixture with every portion of food - the 2nd is an uniform temperature which is estimated at about 98° or 100° Fahr - and the 3rd is the continued and gentle agitation of the food in the stomach - Experiments have been performed to show that the above conditions are absolutely necessary in order to the completion of healthy digestion - (Spalanzani) states that when portions of beef were masticated and placed in a vial with Gastric Juice and the vial kept at the requisite temperature while the mass was kept agitated by

placing it in the arm pit - that at the expiration of a few hours the same appearances are presented as if it had undergone the natural process - Having named these essential conditions we will now explain the manner in which they are fulfilled - The food being the natural and appropriate stimulus of the secretory vessels of the stomach the moment it comes in contact with the mucous membrane its action becomes increased the bloodvessels which ramify throughout its surface become distended which changes its color to a bright red and the gastric juice is poured out - The muscular fibres of the stomach then come into action and by their alternate contractions bring about a thorough admixture of the food with the juice - The 3rd condition - viz - the influence of temperature

was ascertained by Physiologists in the follow-
-ing manner- two equal portions of gastric
juice were placed in seperate vessels
with equal quantities of masticated
beef the one exposed to a temperature
of 98° the other to the open air- at the
expiration of several hours that in the
cold vessel was removed and found very
little changed- while that in the vessel
exposed to a higher temperature was
found nearly digested- We have now
I believe finished the subject of Digestion
but before I conclude with this part of our
subject I will state some of the theories
which have been ripe among the ancients
relative to it- Hippocrates regarded it
as a kind of Concoction and believed that
it was effected by heat alone, in the same
way that food was acted upon over a fire-
Others again maintained that Physiscation

resulted from the fermentation of the alim-
entary mass - and referred to the gas produced
during the progress of impeded digestion
as an evidence that fermentation was going
on - it is now however ascertained that the
end of healthy digestion is rather to obviate
than to produce fermentation and that
this latter only takes place only when
the quantity of food taken into the stomach
is greater than the gastric juice is capable
of dissolving - Another speculation very
prevalent was that digestion was the result
of the putrefactive process - but this also
was untenable from the fact of the gastric
juice possessing properties directly antiseptic
and also from the fact of its restoring to
sweetness meat & other substances in
which that process had already commen-
ced - several other Theories were advanced
which it is useless for me to insert here

since the few that have already been mentioned go to prove their absurdity -

Having now treated of the Anatomy of the digestive organs and assigned to each its separate office and having also given some of the Laws by which they were governed I deem it my duty in conclusion to present the most approved course by which their regular and healthy functions may be maintained - and 1st we may mention the selection of food as to quality and quantity as forming a very important element in the process of sound digestion - to ensure this latter state it is necessary that the quantity of food taken into the stomach should bear a direct proportion to the wants of the system which of course will be influenced by the waste which has been effected in it - we have before said that the gastric juice was

only secreted during the presence of food in the stomach – it is said moreover that the quantity secreted bears a direct proportion to the quantity of food required by the system – knowing this fact it is easy to comprehend that if an inordinate quantity of food be taken into the stomach – or in other words if there is a disproportion existing between the quantity of ingesta and gastric juice – I say it will be easy to understand that a considerable portion of this food will remain in an undissolved condition which undergoing the process of fermentation will impart irritation to the stomach and consequently give rise to some one or other of the Protean forms of indigestion the quality of the food also very materially effects digestion from the fact of some substances being more digestible than other

besides the stimulating properties peculiar to some articles of diet which of course when combined with circumstances presently to be mentioned cooperate powerfully in the production of enervation and debility of the stomach — want of exercise is another circumstance which tends very especially to debilitate the powers of digestion - this fact is plainly exemplified in the persons of young individuals from the country, who have changed their residence for a home in the City where instead of the healthful exercise to which they have been accustomed, together with the pure and invigorating atmosphere which they had hitherto breathed - combined also with the simple and unirritating diet which they had observed - I say the sudden transition from all these powerful promoters of health - to a sedentary

habit of life - confined to an atmosphere tainted and unwholesome - and living upon high seasoned and stimulating articles of food together with their exposure to innumerable other deleterious agents - I say the combined effects of the operation of all these untoward circumstances are but too plainly visible in the pallid cheek, shattered constitution disordered mind - and functional derangement of their viscera

We will now state some of those rules - the observance of which would seem the most effectual preventitive against indigestion and its consequences - 1st the nature of the food as regards its digestibility together with the quantity

2nd " Regularity in taking meals

3rd " Avoidance of mental and bodily activity

immediately before or after meals-
4th Exercise - 5th attention to the bowels-
As a general rule Animal food I believe
is more easily digested and more rapidly
assimilated than vegetable or farinaceous
articles besides the greater quantity
of nutritious matter which is found
in the former in a given bulk of each-
the farinaceous substances however are much
more easily digested than the other class
of vegetables - and from the fact of their
being less stimulating are well adapted
to those constitutions where it is necess-
ary to avoid stimulus and where the
individual is not exposed to laborious
occupations - hence it seems that the
above two classes furnish certain articles
which seem most especialy indicated
in those persons whose digestive appa-
ratus are disposed to debility - as to -

quantity this of course will vary according to the habits, constitution &c of the person and as we have before said should bear an exact proportion to the loss which the system has sustained - for instance laboursing men who lead active and industrious lives stand in need of a larger proportion of food than those who lead indolent and sedentary habits of life and consequently have much less waste effected - as a general rule then persons who have enfeebled digestive organs should pay particular attention to their sensations during the time of eating In order that they may avoid the ill consequences of over eating these sensations are conveyed to the brain through the medium of the nerves and if properly attended to always declare (that is in health) when an adequate quantity has been received to compensate for the -

demands of the system - it is not the sense of satiety which is experienced - for this indicates an overburdened state of the stomach but it is rather a sensation immediately preceding this which is characterized by a general agreeable feeling of body and satisfaction of mind — A mixture of different articles of food is also deprecated, not so much from any deleterious properties which this admixture may contain but principaly on account of its provoking to excess in eating -

Regularity in taking meals is another precaution to be attended to - for when one meal is taken before the previous one is out of the stomach digestion is found to be much impeded Dr Beaumont accounts for this in the following manner viz that the supply of gastric juice was entirely taken up by the first meal and that the stomach now comparatively

exhausted is unable to secrete a fresh supply for the second - this accords with the sentiment previously expressed in this Thesis viz - that - it is secreted only in such quantities as is required for the solution of a certain bulk of food proportioned to the requirements of the animal economy - knowing this we deduce the inference that - a certain interval should elapse between each meal - which interval should be governed by the appetite (provided it be not a morbid one) 3rd Avoidance of mental exercise and bodily activity directly before and after meals should be attended to - and why this should be attended to we will now explain - It is well known that - whenever any vital organ is called into a state of energetical action, that an increased flow of blood and nervous energy is directed to the organ - in order that it may

sustain the excitement - In obedience to this Law when food is taken into the stomach there is an afflux of fluids toward that organ which is masked by the red injected state of its lining membrane and this is absolutely necessary in order that a sufficiency of Gastric juice may be secreted - it is obvious therefore that one who has been indulging in violent bodily exercise or mental labor immediately before or after sitting down to meals cannot have digestion properly carried on owing to the fact of his not having suffered a sufficient interval to elapse to permit the excitement which existed in his system to subside the existence of which excitement acts as a derivative preventing the due quantity of blood from circulating

in the stomach -

Mental emotions also such as Grief, Fear &c - oppose digestion by deriving the blood from the stomach as also by the nervous irritation which they give rise to - We next regard exercise as one of our most powerful agents in warding of disease and maintaining a healthy condition of the stomach including every other function of the Animal economy - this agent acts by imparting tone and vigour to the system increasing the strength of the circulation - preserving a due equilibrium in this function - extending energy to the nervous system and last but not least - does it effect an important end by the consequent exposure of the individual to an invigorating and tone giving atmosphere - as respects atten-

-tion to the bowels which I before compris-
-ed in the list of indications to be fulf-
-illed in preserving healthy digestion-
I may merely observe that they are not
to be neglected but on the contrary regula-
-rity in their function should be maint-
-ained by the employment of those articles
of diet which are known to keep them
in a soluble state - by the avoidance
of astringents &c - and if these should fail
by the employment of gentle apesients
which measures in conjunction with
the observance of the laws hitherto laid
down seem in my humble opinion
to offer the most effectual safeguard
against the innumerable ills and
miseries of Indigestion.

Frdk. D. Mitchell

An
Inaugural Dissertation
On
The "Influence Of Malaria in
Modifying Diseases."

Submitted to the Examination
of the
Provost, Regents, and Faculty of Physic,
of the
University Of Maryland.
For the
Degree of Doctor of Medicine.
By
Samuel Ridout.
Of
Annapolis - Md.

Man, is the victim of numerous diseases. —
Appearing in long succession, these "subtle
Messengers of Death", ever varying in character and
feature, form a long, dark, catalogue of Evils. —
With the causes of some of these diseases, and with
the influences which modify them, we are familiar,
but many others are excited by mysterious agents,
of whose existence indeed, we are aware, but
whose nature, is impenetrably hidden.
Of this latter class, the most interesting, because
by far the most important, is that cause of Dis=
=ease which has been variously called "Marsh
Miasm" — "Koino-Miasmata" — "Malaria".
The last name probably the best, because a
simple confession of ignorance of its nature,
and of its origin. —
Numerous speculations have been made res=
=pecting Malaria. — A most attractive study
certainly, yet in itself profitless, for the
object of investigation is what man can

never discover. — Wonderful as it may seem, this poison whose effects are so pow=erful, — so characteristic, — escapes the strict=est scrutiny of the Chemist. —

How it is generated, — To what state of the atmosphere, or quality of the soil, it owes its origin, — We know not. —

The deadliest atmosphere of the Maremma, yields not to analysis any principle more noxious than what is found in the purest Mountain air. —

That Malaria is a "specific poison, producing specific effects on the human body," We know. * Watson.

Intermittent, and Remittent Fevers, are the great examples of Disease almost exclusively produced by Malaria.

It is not my intention to speak generally, of these two diseases; — some few, unusual peculiarities may be mentioned, but I speak of them as the types, or standard of comparison for

other maladies which may be caused by the same agent, or modified by its influence. It will be needless to go over a detailed description of the character, and symptoms of Intermittent and Remittent Fevers. – These may be referred to hereafter. – Their pathology I will briefly notice, as described by Dr Stewardson. –

The Liver is found of the colour of Brouze, or a mixture of Brouze and Olive, in most cases. – In others there is some slight variations of these colours. – The substance of the Liver was generally softened. –

The mucous membrane of the Stomach is frequently softened, and the glands of Brunner very distinct. – The Spleen is enlarged and much softened. –

These are the principal lesions observed in Remittent Fever, and Dr Stewardson and Gebrard believe that they are common also to Intermittent Fever. –

Now to the subject under consideration:
The influence of Malaria in modifying Dis=
=eases. - Two important maladies of which
malaria may be regarded the sole cause,
have been mentioned. It remains to notice
its effects on other diseases; - the different
symptoms which it excites, and the different
character it imprints upon them. -
I found it exceedingly difficult to obtain from
any books, such information as I needed. In many
instances, indeed all through this paper, it
will not be possible to cite authorities in proof
of what is said. In a word it will be little
more than a mere statement of facts, which
I have learned from Physicians of experience
and sometimes have seen for myself. -
One great deficiency in the study of Malarious
Diseases is the Want of Pathological researches.
In the country, and thinly settled tracts where
such cases occur, it a matter almost of im=

=possibility to procure a Post-Mortem Examination.- Hence there are no regular Tables of cases, with Dissections to give additional interest, and certainty to the Diagnosis.- Fortunately too, for the patients, the mortality from such diseases is small, especially when their great frequency is considered—.

It would probably have given a better idea of the contents of this paper, had I called it "an account of some modifications of Disease met with in Malarious Districts." Of course we can offer no direct, positive, proofs of these modifications referred to, being caused by Malaria.- But enough is known to convince us of the fact.-

We observed first, that certain diseases which do not exist at all in some Localities, are rife in others:- Intermittent and Remittent Fevers for example,- and the origin of these

is assigned to a specific cause, peculiar to those localities.

Now in these same situations we find other Diseases not exclusively belonging to Malarious Districts, but occurring there unquestionably, vastly more frequently than in other regions. — On precisely the same principle then as in the first case, it does seem to me, that the cause of this greater prevalence, must be attributed to the same agent. How much is this opinion strengthened by another fact. —

The striking peculiarity of the two diseases so often mentioned is their periodic character. — In almost every common malady, especially in febrile Diseases, a strong tendency to periodicity is apparent. Scarcely any complaint occurs in Malarious Regions, in which there is not a more or less regular exacerbation and remission. —

These two facts then, - the greater frequency of certain diseases, in Malarious districts, and their close analogy (in periodicity) to Remittent and Intermittent Fever, seem to me to demonstrate that the great modifying cause is, Malaria. -

I shall now go on to mention some of those diseases so frequently occurring in Malarious districts, and as well as I can, notice the points in which they differ from the same diseases in healthy situations. -

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Diseases of the abdominal Viscera, - especially inflammation of the mucous lining of the Stomach and Intestines, - are remarkably frequent. -
Diarrhœa and Dysentery, and less frequently Gastritis of a subacute grade. -
The first of these complaints attended with fever of a marked Remittent character, is very common in children and often

complicated with Gastritis. —

Dysentery is generally exceedingly obstinate continuing to harass the patient for a long time in spite of the most judicious treatment

In this disease also, in the other symptoms as well as the Fever, the periodic tendency is very well marked. — Nor is it in the symp=
=toms merely of these disorders, that the in=
=fluence of Malaria is apparent — The treat=
=ment proves it likewise, For Quinine is administered with evident benefit. —

But the proneness to these diseases is mani=
=fest in the course of other maladies. —

One of the most constant and embarassing symptoms in the course of Diseases of Malarious Districts, especially in Intermit=
=tent and Remittent Fevers, is excessive nausea, which torments, and exhausts the patient. — It often indeed, constitutes the most important feature of the disease, and

renders it impossible to administer medi=
=cines. — When obstinate Vomiting once
sets in, nothing is more difficult to con=
=trol. — Every thing given, is at once rejected
by the Stomach, and fearful prostration
speedily ensues. — Remedies, to be of any avail
must be used promptly —
Whatever may be the cause of all this gastric
disturbance, One thing is certain — if the patient
does not sink, it terminates by no means seldom
in Inflammation; — Gastritis. —
In the treatment of any disease then, where
such symptoms occur, they should be carefully
watched, and checked as soon as possible, or
they will almost certainly terminate in
serious Inflammation. —
The matter which patients vomit in these
cases, after nausea has continued some
time, especially in Remittent, or as it is
commonly called from its most conspicuous

symptoms "Bilious Fever", is intensely bitter, of a yellow or green colour, from the Bile which it contains.- Sometimes it is of a most unnatural color, consisting almost entirely of very vitiated Bile.-

In giving the Pathology of Remittent Fever, (in which the foregoing symptoms are most frequently met with,) Dr Stewardson mentions having found in almost all cases softening of the mucous membrane of the Stomach, and less frequently of the Intestines also.-

Now how are we to account for the constant occur=
=rence of the symptoms I have described?-

In the first place I beleive that the poison, Malaria has a specific tendency to excite these gastro-intestinal diseases.-

Again I suppose that frequent congestion of those organs during attacks of Intermittent and Remittent Fevers leaves them very liable to Inflammation.- The chronic enlarge=

=ment too of the Liver and Spleen, so com=
=mon in Malarious Regions, by obstruct=
=ing the free circulation of Blood in the
Dijestive Organs, would also produce an
unusual predisposition to Inflammation.
May not the Function of Innervation in those
organs be so deranged as to contribute its share
in producing those unfortunate results? —
Pathology I conceive sustains the first of
these suppositions, as I have already men=
=tioned in the Pathology of Remittent Fever
the mucous Membrane of the stomach was
found almost constantly softened by
Inflammation. —
Congestion is so certainly a cause of Inflam
=mation, and Enlargement of the Liver
and Spleen tend so surely to congestion of
the other Organs of the abdomen, that no
argument is needed to prove it. — Authori=
=ties are abundant in favor of this view. —

As to the effect of altered innervation in producing these enteric affections, of course no proofs can be given; — I do not even know any authority which maintains it, but probability at any rate is in its favor. Nervous influence, certainly, when deranged exerts a strong effect on the functions of organs, and continued disturbance of these in its turn may produce organic mischief. In whatever other mode Malaria may pro=duce its effects on the economy, the nervous system is unquestionably strongly impres=sed, and it appears to me that the portion which suffers most from that poison, is that which supplies the digestive organs. — But such speculations, however interesting are unfortunately profitless —
I will leave them therefore for the more useful though perhaps less captivating detail of simple facts. —

These inflammations of the digestive or=
=gans, do not always occur alone however
but are very frequent attendants on other
diseases. – This is a fact of which every
practitioner in a Malarious region is
perfectly aware. – Instances of this will
be given hereafter –
Another interesting form of diseases
must be considered very briefly. –
Derangement of the Hepatic Functions,
accompanies very frequently other diseases.
Here too we have to lament the deficiency of
pathological information.
We can only say that certain symptoms occur,
which are from their character referred to the
Liver. – Absolute proof, that any structural
lesion of this viscus, or any temporary de=
=rangement of its functions, (whether from
sympathy with other organs or some other
reason of which we are ignorant,) is the cause

of those symptoms, cannot be given. —
The yellow tinge of the skin and eyes, the vomiting of vitiated bile, the light colour of the faces denoting the almost entire absence of that fluid, or the dark pitchy evacuations which show that the nature of the bile is al=
=tered; — The intense headache, and nausea which so constantly occur in these cases, these symptoms I say we refer to disease or derangement of the Liver. —
Now at some period in the course of Dis=
=eases in Malarious Regions, oftenest perhaps in their commencement, some one or other of those symptoms appear.
The essential character of the disease thus complicated, is not I believe changed by their occurrence, but such a complication most unquestionably has its influence, and demands a modification of the treatment to be pursued. —

15

Congestion, seems to be the result of the Spe=
=cific action of Malaria. —
It appears in a certain degree in the cold
stage of a common paroxysm of ordinary
Intermittent Fever. A most fearful ex=
=hibition of its worst form, occurs in pes=
=nicious Intermittent and Remittent, which
is commonly called in the districts where
it occurs "Congestive Fever".
In this terrible disease, we see patients
of full strength and vigor, stricken by
a single paroxysm, perish in spite
of all that art can do. —
I have repeatedly seen patients perish
in the very first attack of this disease.
They present the appearance of an
attack of apoplexy, and nothing in
the worst cases can rouse them from
the stupor, which in a time varying
from twelve to thirty six hours, proves fatal.

inflammation of a slow kind is set up in the stretched covering of the organ".

Both these ideas are probably correct;- the or=
=gan is first put upon the stretch, and low inflammation follows. —

The blood coagulates, and the constantly recurring paroxysms leave no chance for its absorption, while the succeeding inflam=
=mation renders that impossible, when the ague is checked. — This enlargement of the solid viscera of the Abdomen explains the great frequency of Ascites in Malari=
=ous regions. — And this is further proved by the fact that the treatment which redu=
=ces the Enlarged organs to their natural size, also relieves the Dropsy. —

The immediate cause of the Effusion of serum, seems to be the obstruction of the Venous circulation by the mechanical pressure of the distended Viscera. —

One other class of diseases connected with the subject remains to be noticed.—
Many have thought, and with great probab=
=ility too, that Malaria makes its first impres=
=sion on the Nervous System.—
Whether the notion be correct or not, one thing is certain;— Diseases of that system are remarkably frequent in Malarious Regions.—
Neuralgia as a distinct disease is I think oftener met with, and is of a more obstinate charac=
=ter than it bears in more salubrious situations. But this fact alone would not prove its con=
=nection with Malaria.— Some of the phe=
=nomena of Intermittent offer more convin=
=cing Evidence. In one of the forms of this protean malady the ordinary cold stage is absent, and its place supplied by neural=
=gic pain. These may be seated in any part of the body and are often of the most excruciating character.—

They appear at regular intervals and are followed by fever and sweating, disappear just as an ordinary chill, have the same complete intermissions, and return just as certainly at the same period. —

I have often seen them simulate so exactly all the symptoms of acute Gastritis, that during the paroxysm it would be impossible to distinguish any difference in the symptoms. In other cases the absence of physical signs of Acute pleurisy, alone, enabled the practitioner to distinguish it from that disease. — Again the pain may be confined to the smallest space. — I have suffered myself from the most intense pain confined entirely to the first joint of the great toe, which returned at regular intervals and was removed by full doses of Quinine. — The recurrence of these pains at regular periods and the fact that they

are amenable to just the same treatment as other forms of Intermittent, these facts prove their connexion with Malaria, if they do not absolutely owe their existence to that agent. —

Convulsions, occur often in Intermittent Fever. Children are the most frequent sufferers from this form of disease. Like the pains just noticed, they usurp the place of the ague, and like them too, return with regularity at a certain period. — Perhaps this form ought to have been mentioned when speaking of Congestion and its Effects. — At all events it is a form of congestion, occurring oftenest in children probably, because their nervous system is more delicate than that of adults, and more susceptible to the influence of the Malarious poison. —

By way of illustrating these remarks I will describe as concisely as may be a form of disease of great importance and for many reasons, one of uncommon interest. —

"Bilious Pneumonia" as it is called in the localities where it occurs, is one of the most fatal diseases which the practitioner is called upon to treat; — probably more fatal than any other single disease, which occurs in Malarious Districts. —

It is difficult to find a good description of it in any book with which I am ac=quainted; the following account of Dr Eberle is about the best that I have found.

"Bilious Pneumonia, he says, is a <u>modi=fication</u> of ordinary Pneumonia which has received its name from the prominent symptoms of Hepatic Derangement which it Exhibits, along with the ordinary phe=nomena of Pneumonic Inflammation.

It occurs chiefly during cold and variable seasons, in Malarious Regions, and has its origin in the combined influence of Atmospheric Vicissitudes and Malaria. The initial symptoms of the disease differ but little from those which usually usher in an attack of Bilious Remittent Fever. — Sometimes a sense of fulness and distension is felt in the right Hypochondrium, and occasionally Dysenteric symptoms occur before the fever commences. — The skin from the beginning is more or less tinged with bile; — The face is flushed, and a sickly mixture of red and yellow betrays the existence of a disturbed state of the Liver. —

Acute pain in the forehead is almost constantly present. — The pain in the chest is commonly rather obtuse than acute, and attended with a sense of weight and

oppression in the chest. – Fever in some cases continues several days before pectoral pain supervenes. – Expectoration is not very copious. Sputa are of a frothy yellowish appearance, streaked often with Blood. – The fever is attended with manifest morning Remissions, and Evening Exacerbations. Vomiting is a very common occurrence; the matter thrown up is commonly Bilious. – The tongue is at first white, with a yellowish streak down the middle, which as the disease advances becomes dark brown and dry. – The urine is always of a deep yellow colour. The pulse is generally small, frequent, and quick, with a slight degree of preternatural tension. "

The disease as it occurs in the locality with which I am most familiar is very generally ushered in by a chile. –

As Dr Eberle justly remarks, the symptoms

do not ordinarily differ materially from those of Remittent Fever. Like that disease it is sometimes of a congestive character, the Lungs suffering more than other organs from congestion. Often from the very commencement, the fever is of that high grade which some writers have called Synocha, but more frequently of a Typhoid character. In the most formidable cases the pectoral symptoms are completely masked, and the existence of the pneumonia is revealed only by Auscultation. —
The pain is often migratory, passing from one point to another with great rapidity. —
This is often noticed especially after the patient has expressed great relief from Venesection, cupping, or Blistering. —
Another marked peculiarity attending this malady, is the sudden recurrence of pain and other severe symptoms, after these had

been absent for perhaps twenty-four, or even forty-eight hours. –
The Expectorated matter consists usually of a depraved mucus, intimately mixed with blood. –
The Blood drawn in this disease is in very many cases so imperfectly oxidized as to appear almost black. – Generally, it is much buffed, and cupped. –
Occasionly instead of this, and especially when the disease is of an Asthenic character, the blood is covered by a thin bluish pellicle. – Very often when the disease has apparently yielded to treatment, the unfortunate patient will be attacked with a diarrhoea or dysentery which sets all remedies at defiance.
So much for the ordinary symptoms of Bilious Pneumonia – it now remains to speak of its Pathology. –

I have not found any account of the le=
=sions attending this disease in Books.—
and I have seen but few autopsies myself.
Of course one or two isolated dissections
are insufficient to establish the true pathol=
=ogy of the disease. These then are the changes
which I have found. — The changes in
the Lungs are of course the same as in ordi=
=nary Pneumonia. —
In the abdomen; — The Liver was enlarged,
of a peculiar and unnatural colour, a sort
of yellowish brown, something like Scotch
Snuff. — A section presented the same ap=
=pearance and stained the hands yellow.
Gall Bladder, full of dark viscid Bile. —
Stomach — The mucous membrane much
injected, and softened in different places where
there was pointed redness. —
Intestines, gave the same evidences of In=
=flammation, Especially the larger portion. —

The glands of the Duodenum and Ileum were unusually distinct. —
Spleen Enlarged considerably. —
This patient was a young man, who had been constantly Exposed to the influence of Malaria — He had for some days before death a profuse dysenteric Diarrhea). —
I have been told of other cases where the same lesions were found to Exist. —
Now I do not believe for a moment, that the essential character of the Pneumonic Inflammation, is altered by the other attendants on this disease; — the others symptoms complicate the Pneumonia, but it is not the less an Inflammation of the Lungs.
Yet on the other hand, these complications are of great importance, and Pneumonia thus modified is most unquestionably a vastly more fatal and unmanageable disease than that simple form which is

found in other districts, which are free from the evil influence of Malaria. —

I have now noticed the most important modifications of Diseases of Malarious Regions. A simple statement of Facts, — regarding a matter which yields in interest and importance to no other, — is the only object of this paper. — The difficulties attending such an attempt were stated at the outset. — That diseases should be thus modified by Malaria, surely is not surprising. — The character of the climate where they occur is variable in the most remarkable degree. — These atmospheric vicissitudes, the sudden changes of temperature to which the body is subjected, amounting often to a change of 30° or 40° in the twenty-four hours, the intensely hot sun of mid-day and the cold and heavy dews at night

are of necessity very trying to the con=
=stitution. —

Add to all this, the constant, unceasing influence of a baneful agent, which pen=
=vades the whole system; — Spoils the delicate tissue of its most important organs and disturbs, if it does not destroy their functions; - think too of the mental depres=
=sion almost inseparable from such evils, — and the wonder will be, not, that strange modifications of disease arise, but rather that the impress of such agent is not more plainly marked, and their influence yet more widely diffused.

An
Inaugural Dissertation
On
Scarlatina
Submitted to the Examination
of the
Provost. Regents & Faculty of Physic
of the
University of Maryland
For the
Degree of Doctor of Medicine
By
Edmund F. G. Shorb

Introductory

My principal object in taking this Disease for my dissertation, is that having seen more of the disease than any other, I thought I could express myself in a better manner.

Although the Thesis now presented to the Faculty, lays but little claim to originality. In collecting and arranging the matter of which this Thesis is compose I have endeavoured to be as concise as possible. For the errors that may be discovered by our learned, and Honorable Faculty, I hope may be forgiven. For there is great impracticability of devoting to a subject of this sort that attention which its importance demands. How far I have succeeded in the accomplishment of ~~the~~ my Tasks the Faculty will determine

Scarlatina

Scarlatina is a febrile disease of a contagious nature, and is characterised by a scarlet efforescence of the Skin, and Mucous Membrane of the Fauces, generally commencing about the second day of the Fever and ending on the sixth or eighth day, being in most cases accompanied by inflemation of the Throat, and occasionally of the sub Maxillary Glands.

In some Epidemics the febrile excitement is so slight as to demand little or no attention, in others it assumes a very violent Inflam-matory character and in other Epidemics it assumes a Typhoid character. The two striking and most important features in this disease is the affection of the Throat and Skin. They both

may be well marked or perhaps only one will present itself, and this circumstance has led some Nosologists to divide the one and same complaint into several forms; To which Cullen and some other authors have assigned the name of Cynache Maligna; and Scarlatina; Cullens definition of these complaints are very much alike, they both imply inflamation of the fauces a cutaneous rash; and fever, The truth is that both these kinds of disorder spring from the same contagion; for the Malignant Sore Throat may be contracted from a person who has Mild Scarlet Fever, and Mild Scarlet Fever may be contracted from a person who has Malignant Sore Throat. The two forms graduate insensibly in different cases towards each other and it would almost be impossible to draw any strict line of demarcation between them.

Varieties

For convenience of description; and the better form of Treatment, authors generally divide it into Four Varieties—viz Scarlatina Simplex in which There is present a florid rash and little or no affection of the Throat. Scarlatina anginosa in which the Throat and skin are decidedly implicated. Scarlatina Maligna in which the stress of the disease falls upon the Throat & Scarlatina sine Exanthemata which consists of an inflimation of the Throat without any Eruption and Lasts only a few days it is of rare occurence I shall describe each of these forms seperately

Scarlatina Simplex

This form generally commences with a Rigor; and is followed by a Fever; sometimes nausea and vomiting are also present; as also great accelleration of the pulse but not very Hard. In some cases the febrile disturbance is so Trivial as scarcely to be noticed in other cases

it is tolerable severe, the Prostration becoming great the pulse rises in rapidity. The Skin is hot and the Headache is sometimes accompanied with Transient Delerium.
There is also pain in the back and Limbs.
The inflimation of the Throat is slight in this form sometimes not perceptible. The Tongue is gennerally moist at the beginning of the disease, and has a white furr on it, and under this the Tongue is of a bright Scarlet color. The appetite is usually lost and there is gennerally a good deal of thirst. These Symptoms continue about two days and is followed by an unnersal Excitement and the Scarlet Efforescence makes its appearance, first on the face, neck, and Breast, and then travels to the other Extremities, and finally about the three day diffusing itself over the whole body Tongue and Throat.

There is frequently a degree of roughness on the skin, owing no doubt I suppose from enlargement of the Cutaneous vessels with Blood, It is also morbidly sensible to the Touch, as also very dry and hot. The Lips are more of a red Color than natural. The face is flushed and rather fuller than in health. The Functions of the Stomach are nearly always impaired & the evacuations are gennerally darker than usual. The fever is gennerally greater in the evening than in the morning. The rash gennerally begins to decline on the fifth day. The scarlet hue becoming gradually more pale, on the sixth it is gennerally very indistinct, and is wholly gone before the eight day. after which there is gennerally more or less Desquamation or Desquamation of the Cuticle It very often leaves the patient in a State of general debility.

Scarlatina Anginosa

In Scarlatina anginosa the skin and throat are decidedly implicated, in some cases. the first symptoms are a sudden stiffness of the muscles of the throat and angles of the jaw accompanied by uneasiness of swallowing, which on the second day becomes more difficult upon examining the throat there is considerable redness of the Tonsils, Uvula, and Soft Palate, with florid redness of there surface, which extends to the posterior part of the Fauces. Its attacks are nearly the same as in Scarlatina Simplex. but to a greater degree of chillness, Headache and restlessness. In the first stage are generally superadded a Marked oppression of the Praecordia, with Prostration of strength as also with nausea, and vomiting. The efflorescence generally appears about the end of the second day. In some cases—

the fever proceedes or accompanies the sore throat in others it is delayed until the appearance of the efflorescence. On the second or third day as the inflamation of the throat becomes more pergent; there is gennerally a considerable degree of febrile excitement, the debility is also greater, the pulse more frequent and of unequal strength, and the respiration oppressed. There is also considerable thirst. The appearance of the tongue is peculiar and characteristic, it is often covered at its onset with a thick white cream like fur, through which are seen the projecting papillæ, and the edges and tip of the tongue assuming a bright scarlet hue, The red points gradually multiply and the white fur clears away, and at length the whole surface of the tongue becomes preternaturally red, clean, and raw looking, and after this becoming

clean. as well as red and rough and looks like a strawberry, it will sometimes when the disease goes on get dry hard and brown. As the Evening approaches there is an exacerbation of fever with extreme restlessness and often delerium during the night. The chances of recovery is much greater in Scarlatina anginosa when the emption is florid and stands well out. But even in this form of disorder there are many sources of danger and various ways in which it may prove fatal. in the first place the patient may die from inflimation or effusion in the head, They will have violent Headache with furious delerium and a glary countenance which is followed by Coma and death. In this variety the efforescence does not observe the same regularity, as in Scarlatina simplex, it does not appear so early and it often does not appear until the third or

fourth day and generally comes out in scattered patches on the chest and arms. In some cases it is said to be entirely confined to the back of the hands and wrists, and sometimes wholly vanishes the day after its appearance and reappears partially at uncertain intervals so that its whole duration is longer than in Scarlatina Simplex. about the fifth or sixth day it begins to grow sensibly pale, following the same order in its decline which it had previously observed in its appearance. Desquamation of the cuticle frequently follows the disappearance of the rash. The fever and inflamation of the throat begin to abate with the fading of the Eruption, though sometimes the sore throat and some degree of fever continues a week or two days after the Eruption has disappeared. Sometimes Scarlatina Anginosa assumes an agravated

forms, Thus to the symptoms already enumerated there is acrid discharges from the nostrils and Ears which is very offensive frequently at most times, and is also accompanied by inflimation of the Cervical and Parotid Glands, terminating in suppuration of the Cellular Tissue. it also sometimes causes Deafness which tend to keep up the febrile Excitement and to prolong the Disease. They do not add much to the danger as they generally subside in a few days after the dissapearance of the more characteristic symptoms of the Disease. During the progress of the disease the attention of the Practitioner should be constantly directed to the state of the Internal organs on this point you will see more in another part

Scarlatina Maligna

Scarlatina sometimes occurs with symptoms of a still more formidable character. it generally commences like Scarlatina anginosa but in a few days it is characterised by symptoms of a still more formidable character. it may as I mentioned before commence like Scarlatina anginosa, it is often ushered in by a fixed pain in some part of the body. after a violent shudding fit, There generally follows a burning fever, also a very unextinguishable thirst, violent Headache pain in the back and limbs, and sometimes with great derangement of the digestive organs such as pain in the stomach, accompanied with vomiting and sometimes Diarrhoea. The pulse is generally Quick & Hard, great heat and pain in the throat of a very inflamatory character also coma and deleriums followed in three or four days after by Patches

of an Eruption more raised than in Scar-
-latina Simplex, and sometimes accompanied
by bloody urine. The Efflorescence in this variety
in its appearance, its colour is pale and livid
and sometimes mixed with Petechia, its
Duration is indeterminate, it may appear and
disappear once and again and is attended by
a feeble pulse, a cold skin and Typhoid
depression. sometimes the patient sinks at
once under the Virulence of the Poisons,
and life is extinguished in a few hours.
In other cases of Scarlatina Maligna the
Typhoid Symptoms rapidly deepen and
Death in children is apt to occur about
the fifth day of the complaint and not
uncommonly as soon as the third. The pulse
becomes frequent and feeble, the Tongue
dry, brown, and tremulous. The debility
extreme. The Throat is ulcerated and
Gangrenous and the respiration is impeded

by Rescid Mucus which collects about the fauces, over this variety of the Disease Medicine has little control. The teeth and tongue in Scarlatina Maligna are covered by black or brown sordes. The eyes are watery and much injected. a foetid discharge is sometimes poured out of the Nostrils. Sometimes Epistaxis will break out. The cheeks are of a dark red color. There is also sometimes deafness. as also great delerium in adults, in Childrens Coma, and jactation. The breath has a foetid odour, as also noisy and laborious. Deglutition is difficult and sometimes impossible. There is also constriction of the Jaws, and a blackish exudation from the Tonsils and neighbouring parts.
The following symptoms mark generally a speedy dissolution, Continual Coma, Extreme difficulty of respiration, Copious Diarrhoea and the formation of numerous Petechiae, and Death

generally takes place on the second third or fourth day. The small number of patients who survive these first formidable symptoms have now to contend with the consequences of inflamitory action of the air passages and the Digestive Organs, also the hearing is often very imperfect afterwards which is a hard matter to contend with, and is very seldom cured, these continue after the Exanthemata has gone, and with all the Symptoms of protracted illness. Anasarca is also very common after this form, as well as after the other forms of which I spoke enough of before. Gangrenous Ulcers very often form over the Trochanters and Sacrum, which are often followed by ulcerated Surfaces which is very difficult to cure and adds a great deal to the patients suffering. Children having this complaint very often become a prey to some of the many forms of Scrofula. Boils,

Strumous Ulcers, diseases of the Scalp, sores behind the Ears, Scrofulous Swelling of the Cervical Glands, and of the upper Lip, Chronic inflamation of the Eyes and Eyelids. The same affliction results are also very common after Small Pox and Measles

Scarlatina Sine Exanthemata

This is a form in which the Eruption does not make its appearance. The Symptoms are pain in the back, head and limbs The tongue has a white fur on it at first. The throat and Tonsils are a good deal inflamed, which lasts a few days and about seven or eight days there is Desquamation of the Cuticle. Sometimes there is some little Eruption about the Joints. This form proceeds from the Contagion of Scarlatina and is generally of a very rare occurence, and generally gives the patient very little Trouble. I was a patient to this form last Summer.

I may arrange what I have to say of the Treatment of Scarlatina according to the three varietys of it already mentioned, Scarlatina Simplex, anginosa and Maligna

Treatment of Scarlatina Simplex

This requires nothing more than confinement to the House and the observance of the antiphlogistic regimen in regard to Diet, and regulation of the Bowels, you must then endeavour to assist Nature, for the Disease will run its course in spite of all Treatment, but you can at the same time Mitigate the Symptoms a great deal by remedies. if there is any Nausea give a mild Emetic of Ipecac and if there is any constipation at the same time you may combine a few grains of Calomel to it. You must regulate the Bowels by Saline remedies I think the best is Chlorate of Potapa with Bi carb Soda after the patient has recovered keep him confined a few weeks afterwards to his room to prevent Anasarca

Treatment of Scarlatina Anginosa

With respect to the management of this form of Scarlet Fever greater discrepancy of opinion prevails, and I think upon the whole, it is too much meddled with by Physicians. If the heat of the skin is considerable, I think tepid Sponging would be very refreshing and beneficial at the same time, and if at any period Delerium should come on, I should shave the Scalp and apply cold to it also apply Leeches to the Temples. as also Leeches to the Throat for the Tonsils are generally very much inflamed and swollen in this form. Or you may apply Leeches only to the Throat, thereby you relieve that part as well as the head symptoms. If the fever was extreme and the Delerium great I should take Blood from the Arm, but take it very cautiously while

the Patient is sitting up; and watch cautiously its effects. I should also apply the chlorate of Potapso and Bi Carb Soda to the Throat and Tonsils as a Gargle. This is one of the best Remedies you can employ in my opinion in those cases I have seen it used by my Father very often it seemed to act almost as a Specific against the Disease, and if there is any Constipation at the same time give it Internally. which will be very grateful & cooling to the patient. If at the beginning of the Disease there is any Nausea you may assist Nature by giving a Mild Emetic say Ipecac and if there is any Constipation at the same time, you may combine a few grains of Calomel to it. If there is considerable Diarrhoea you must check it with Opium but if it is only slight you had better leave it alone to Nature for it has a

great tendency to keep down febrile
Excitement. also keep the patient on the
Antiphlogistic Treatment in regard to Diet,
Regulation of the Bowels and to keep
Close to the Room. With respect then to
this form of the complaint the principles
of Treatment are not to interfere unnecessa-
rily; to take Blood when certain Symptoms
require it, but to take no more than seems
likely to be subservient for the purpose
in View, To bear in mind that the System
is Labouring under a Morbid Poison, which
we cannot get rid of from the Blood, but
the dangerous effects of which we are to
Watch and obviate. After the Patient has
recovered it will be necessary for you
to confine him a few weeks afterwards
to his Room to prevent Anasarca, and
other Secondary Inflamations, which genera-
lly gives the patients a great Deal of Trouble

Treatment of Scarlatina Maligna

In this form of the complaint the treatment requires to be more energetic, but very often all our remedies will be in vain. The patient very often sinks at the begining of the Disease, without any affection of the Throat or Skin, If we can save such patients, it is by the administration of Bark and Wine, to sustain the Portal and flagging powers of the System. another source of danger arises from the rapid Gangrenous Ulceration of the Throat, when the patient is not killed by the first violence of the contagion. Now under these circumstances the disease generally presents a Typhoid character, and we must administer Quinine and Wine though watchfully given. and now something may be given for the Throat by way of Gargles to correct the state of the Throat and

to prevent the destroying consequences, which would be otherwise likely to flow from it. I think the best remedy to be employed as a gargle is a Solution of the Chloride of Soda, and if the disease occurs in a child, that is not able to gargle, the Solution may be injected into the Nostrils or against the Fauces. The effect at most times is very encouraging, as it generally brings away a great deal of Sloughy, acrid and offensive matter. Dr Watson speaks very high as well as some other good authors of the Chlorine Mixture as a drink in Scarlet Fever which is prepared in the following manner. Two Drahms of Chlorate of Potapa are to be dissolved in two ounces of Hydrochloric Acid, previously diluted with two ounces of Distilled water. The Solution must be put immediately into a stoppered Bottle and kept in a

dark place. Two drahms of this Solution
mixed with a pint of distilled water
forms the Chlorine Mixture, of which a
Tablespoonfull or two accordy to the age
of the patient may be given for a dose
frequently. I have seen my Father use this
Mixture in four cases of Scarlatina two
which were simple cases the other two
Malignant all of which recovered he says
he never tried a remedy which gave him
so much satisfaction. ~~He must not~~
omit in this form of the Disease to pay
great attention to the state of the Bowels,
and never allow them to become Costive.
Sometimes a severe Diarrhoea will break
out, which must always be stopped by
proper remedies, for if you leave it run
on, it will weaken the patient and
make the Typhoid Symptoms greater.
Some recommend Blisters in this form

I do not think that they are a very
admirable remedy from what I have heard
my Father say, he was in the habit of employ
ing them pretty frequently a few years ago in
this complaint, and they never seemed to be of
any service, but rather the Contrary for the
agravated the patients a great deal, and
inflicted a good deal of pain at the same
time, at length he tried to treat cases
without them, and they seemed to do a great
deal better and he has employed a very
few since. When the patient is convalescent,
he will require careful watching, until
that period is gone by, at which the
Dropsical symptoms are apt to appear.
It is generally by neglect that these
symptoms are brought on. The patient
should remain in the House for two
or three weeks after he is convalescent,
and avoid all exposure to wet, cold.

and fatigue. as also to pay great
attention to his Digestive Organs, and
keep on low Diet. If Dropsical symptoms
do occur, and if they are very slight, they
may generally be removed by Purgatives
and Diuretics, the Digitalis is a good
Diuretic in such cases as well as the
Supertartrate of Potash. with the use of the
Warm Bath every night. But if there
is any indication of Inflamatory disease
within, we must adopt more active measures.
We have not known to contend with the
deleterious influence of a Morbid poison, but
to ~~contend~~ dread the influence of acute
Inflamation or of the sudden effusion
of fluid, the mere presence and prepara
which may fatally oppress Vital Organs.
We should then have for our object, viz
to arrest the Inflamation or to promote
the removal of the effused fluid—

– by Blood Letting, and the Exhibition of Purgative Medicines and Mercury.

It has been supposed by some that Belladona is said to act as a preventative against the Contagion of Scarlet Fever. Hahnemann the author of the Homoeopathic Hypothesis was the first to assert this. It is said when Belladona is administered in small doses it sometimes causes an Eruption resembling that of Scarlet Fever. I know nothing of this preventative myself, but there would be no impropriety in administering small doses providing its employment, does not lead to a neglect of other precautions. It is affirmed if it does not prevent the Disease it will render it mild, and if Taken four or five days before exposure to the Contagion, the resulting Scarlatina never proves fatal

History

Scarlatina was at one period always confounded with measles, and was only noted as a new disease about a Centurie ago. Morton speaks of it under the name of Morbi Confluentes and Hoffman by a similer mistake, Rubeola Rosalia, That mentioned by Sydenham must have been of a very mild character for he does not mention any Ulceration of the Throat. Dr Fothergill in 1748 was the first to mention it as a new and Seperate Disease. That perilous form which Cullen designates Cynache Maligna, was long called Fothergills sore Throat. The Characteristic differences between Scarlet Fever and Measles, were first fully specified by Dr Wortheing

Diagnosis

The only disease which Scarlatina is likely to be confounded is with Measles, from which disease it may be distinguished by the Percursory Symptoms.

1st By the time intervening between the first accession of fever and the appearance of the rash. The rash is the best criterion to go by. In Measles the rash is more elevated above the surface, than in Scarlet fever. If you rub your hand over the surface in Measles you can feel the rash quite perceptible. Whereas in Scarlet fever you can hardly perceive the difference to what it was in the healthy state. The rash is also of a darker color in Rubeola, it is said to present the color of a Raspberry, and Scarlatina the color of a Boiled Lobster. In Rubeola the papillæ are gathered together in semilunar clusters, leaving

spaces between them of healthy skin.
The redness of Scarlatina commences in minute
points which in a short period become
so numerous and crowded that the
surface is universally red. They begin on
the face and neck and breast and extend
to the extremities pervading at last every
part of the skin. The scarlet color is
deeper in general about the groins and
flexures of the joints than elsewhere
2nd Rubeola is also distinguished from Scarlet
fever at the onset by the presence of Catarrhal
symptoms, Coryza, Sneezing, suffusion of the
eyes. Cough, slight dyspnoea, while in
Scarlatina the first sensation of uneasiness
is referred to the Throat. There is in
many cases Catarrhal symptoms present
in Scarlatina but not quite late in the
disease of this I have saw a few cases
myself

3rd. By the absence of severe inflamation and ulcerations of the throat. symptoms which always accompany severe cases of Scarlatina. You may also have inflamation of the throat in measles but is generally of a mild character and is never attended in any of its course by ploughing

4th. The rash of measles in its most regular form appears about the fourth day of the disease, in Scarlet fever the rash appears generally on the second day.

In Scarlatina the fever does not abate upon the appearance of the Eruption, to the same extent as in measles,

Rosceola is also distinguished from Scarlatina from the partial and regularly defined rash, by the absence of the angina. By the mildness of the febrile disorder and by the short duration of the complaint. Very often deep rose colour-patches exactly like Rosceola

appear intermixed with the rash of Scarlet Fever. On the arms and legs the Eruption differs somewhat from that of the Trunk it is more spotty and papular, and the papulæ are a little prominent, while over the body there is a general diffuse blush. In some cases of Scarlatina some part of the red surface is closely studded with transparent vesicles, containing a thin colorless liquid, when they are present. They are most thickly seated on the Thorax and on the front and sides of the neck. I cannot say anything about these, for one good reason, I never saw any of it and I believe it is of rare occurrence. The Eruption in most regular and favourable cases stands out for three or four days and then begins to fade and decline, becoming by degrees indistinct and disappearing altogether in the majority

of cases about the seventh day. About this time Desquamation of the Cuticle begins to take place, in small scurfs or scales from the face and body in large patches from the extremities. Sometimes the scarf skin on the hand and feet seperate almost entire. A Glove or a slipper of Cuticle comes away at once. You may see such things in Most Museums.

After all of what has been said if you are called on early in the disease, to see a patient, You will frequently be asked by the patient, or parents, whether he has Scarlatina, or Rubeola, You must on this point be very positive, unless one of these diseases prevails as an Epidemic at the time. Then you can be more certain, but if this is not the case, You can tell them that the Symptoms does not indicate which disease he will have. For if you

tell them they will have Scarlatina and it proves to be Rubeola. The parents and Patients will generally lose a great deal of confidence in you, and they will at the same time think you know nothing about the Disease. do not make up your mind until you see the Emption come out, this is a practical point which all Physicians should bear in mind. The next Question to be asked is whether the disease is contagious, Your answer should be Yes! It is no use for me to argue facts about its being Contagious for every practical Physician of any Experience will concede with me although the Contagion is not of a very violent Character. for I have heard of one person being attacted in the family whilst all the rest have escaped. but generally where one takes the Disease in a family if the rest have not had the Disease they will generally take it

Sequela

It often happens when Scarlatina is advancing towards a favourable termination. That recovery is retarded and life often Destroyed, by the supervention, of some local Inflimation or affections, which are to be regarded as accidental complications of sequela. During the progress of Scarlatina the attention of the Physician should be constantly directed to the state of the Internal Organs, for there is generally a great disposition to inflimations of Serous Membranes, such as the Pleura, Pentoneum, Arachanoid, and Pencardium. In certain Epidemics the disease is prolonged by the supervention of Bronchitis, or Gastro-Enteritis, and sometimes the disease is followed by Purulent deposits about the Joints, or by Gangrene of some portions of the Extremities. But the most common and the most serious of the the sequela—

of Scarlatina is Anasarca, serous infiltration of the subcutaneous Cellular Tissue, accompanied often with Dropsy of the larger serous Cavities. Cullen says he found the Dropsy very manageable, but if we look at its probable ultimate Consequences it is a very formidable one. This affection belongs to the class of Febrile Dropsies it is much more common after a Mild than a Severe Disease, This is owing no doubt that there is much more caution observed after a severe case than a mild one during the Period of Desquamation and Convalescence, It is also much more frequent in Winter, than in Summer, also patients are much more liable to have it who have had much Desquamation of the Cuticle, and in those who are exposed much earlier after the Disease than those who remain longer at home. When the Desquamation is over and the new Cuticle is somewhat hardened the peril is—

– generally over. Dr Wells says when no Dropsy takes place before the end of the fourth week it is no more to be dreaded. Children are much more frequently attacked than Adults. When the fluid is Effused in the Ventricles of the Brain, the swelling of other parts of the body often partially subsides. Another source of danger is the rapid accumulation of fluid in the Chest, which is commonly preceded sometimes by General Anasarca, and the suddenness of the Effusion is sometimes remarkable. In this as in other Species of febrile Dropsy; the urine is ~~very~~ Constantly troubled. The earliest threatnys of this formidable Complaint demand attention. it is usually preceded for a day or two or longer by pressure, languor, frequently by Nausea and Vomiting, and a costive state of the Bowels. The pulse at the beginn is generally slow and beats at irregular intervals–

but afterwards it generally becomes frequent. The Urine is first scanty and altered in its appearance. The face is pale and full. Sometimes as the Disease proceedes, Violent Headache comes on; as also dilatation of the Pupils, Convulsions or Palsy, a wild Glary countenance all denote effusion on the head. When the Pleura is the seat of Effusions, Orthopnea is present and you can find out the Disease by Auscultation and Percussion. Ascites to any considerable amount is rare

Anatomical Characters

The morbid appearances presented upon examining a fatal case of Scarlatina, is no ways uniform, Even very often when you examine rapidly fatal cases no morbid appearance can be found which caused death, Dr Tweedie says in such cases it is more than probable that the diseased condition of the Blood and fluids has an—

important share in the fatal issue. The most important specific action of the poison is on the skin, producing a rash which consists of intense congestion of the cutaneous capillaries. It very often speedily vanishes after death in fatal cases. In Scarlatina Anginosa dissection reveals a congested state of the mouth and Pharynx. It very often happens however even when there was intense inflamation of the Throat, during life no traces of its exestance could be found after death. In Scarlatina Maligna the appearances which I mentioned in Scarlatina Anginosa are not observed, or at least the Inflamation of the Throat is very trivial, but the lining Membrane is of a dark red color. In some Epidemics it has been observed that the inflamation of the Mucous Membrane is much more extensive. The Abdominal Viscera are very rarely affected

Sometimes there is slight inflamation of the Mucous Membrane of the Intestinal Tube. Sometimes the Pentoneum bears marks of previous inflimation. The appearance of the Kidneys are not uniform, in rapid cases they are generally healthy, in protracted cases they sometimes present a mottled appearance. When Dropsy has appeared before death, the alterations are more decided. When the primary fever has terminated fatally after violent delerium Dr Twiddie has found the Arachanoid Membrane vascular or even opaque with effusion of serum sometimes a milky substance underneath, in such cases the substance of the Brain is also congested. Scarlatina appears to be a Contagious as well as infectious disease.

Prognosis and Mortality

The only danger to be apprehended in Scarlatina simplex is the occurence of some internal local inflemations, such as the superventions of Anasarca, after the Desquamation of the Cuticle. It must also be borne in mind, when Scarlatina prevails Epidemically, that a mild case very often runs into a Malignant Type. Gennerally Scarlatina simplex is not considered much of a disease, Sydenham has said it is fatal only through the Officiousness of the Physician.

The Prognosis in Scarlatina Anginosa is much more grave than in Scarlatina Simplex although it is gennerally considered good. it is also influenced chiefly by the extent and severity of the local inflemations, bearing in mind, that there is a general tendency for the anginose form to Terminate in Resolution. a bright florid color of the Mucous Membrane of the Throat, is much more favourable than when it presents a dark livid aspect. When the Eruption is partial, or when its

retrocession take place suddenly at an early period there is much danger to be apprehended. Complete desquamation of the Cuticle is a favourable sign.

As Scarlatina Maligna is always attended with much danger a guarded prognosis should be given, It is generally thought that children withstand the virulence of the disease better than adults. It is also a favourable sign when the Eruption stands well out, of a florid color, as also a florid color of the fauces is a favourable sign. The absence of visceral inflimation is also a favourable symptom, also when the pulse falls in frequency and increases in fulness, The Breathing becoming gentle the countenance assuming its natural color and a gentle perspiration are signs of a favourable result.

Among the unfavourable signs are the existance of any inflimation of any important organ, for the subsidy of which remedies cannot be employed also a dark & livid appearance of the Eruption, as also a sudden disappearance of the Eruption.

– a small frequent pulse. Hurried respiration and discharges from the nose and ears, the admixture of blood in the urine or stools, involuntary evacuations, Convulsions Lockjaw, hiccoughs, Muttering delerium and coma, the appearance of Gangrene of those parts subject to pressure or on the Extremities. It is generally considered a fatal disease when it attacks pregnant women. It is also considered milder in the Spring and Summer months, than in the Fall and Winter Months. This no doubt depends that more persons are subjected to the vicissitudes of the weather, and much more liable to have inflamations in Winter than in Summer months. In some Epidemics the disease is very mild in its character, and scarcely requires any treatment. While in other Epidemics it destroys whole families and threatens great destruction to a part of the country which it attacks.

Edmund F. Short

ON

Anatomy and Physiology.

Submitted to the examination of

of the

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A N

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Anatomy and Physiology.

When we contemplate the greatness, and august magnificence, of the universe by which we are surrounded, the heavens above, and the earth beneath; the beauty and the grandeur of the animate, and inanimate, works of creation; we are at once struck with the vast sublimity, and profundity, of the prospect: for a moment we become mute; being overwhelmed, with the infinite field of meditation, which lies before us spread out in unbounded perspective; at length our tongues gain utterance; and our first exclamations are, how incomprehensible to the human mind, are the immeasurable lengths, and unfathomable depths, of the eternal wisdom and power, of the architect, and if his works are so far beyond our comprehension, and knowledge; how much more so he who made them such.

With the investigations of the heavens, above of the earth,

or of the waters under the earth, the electricity of the atmosphere, the lightnings flash, or the thunders roar, we have very little to do at this time; more than pointing them out, as subjects worthy of our research; as the beautifully delineate the minor workings of the Creator of man.

Beast, bird, fish, insect, which no eye can see; all, all, speak forth; the wonder working power, of that great being, who called them into existence.- But man, the noblest work of all, stands preeminent; an investigation into his anatomical, and physiological, structure, demands our most unfaltering attention: for I must say this is the branch of our profession, which in my humble opinion, lays the foundation of the medical science; without an acquaintance, of the structure, of the human organization; all our pretentions, to a medical education; would be presumptive, and vain; it would be like an individual building a house, upon a sandy foundation, which would in all probability come tottering to the ground, when the tempests blast would beat upon it: thus will it be with all those who essay to make a profession of medicine, without first laying a proper medical education anatomical foundation,

I do not wish to be understood, to say, a knowledge of anatomy of anatomy alone in itself considered, is sufficient to qualify a person to be a competent practicioner, of the healing art; on the contrary I hold the different branches, in connexion with the present system; of a proper medical education, which has been lately under contemplation, and investigation; is the only one way to attain the end desired.

And when all these different branches, being combined, beginning at the bottom, and going up to the top, form an edifice; under whose hallowed roof, the diseased, the maimed, the halt, and the blind, may find comparative protection; and security, from the storms raging without, viz pestilence, disease, accident, and death.

Man know thyself; is an expression which has gained the admiration, of the theologian, and the divine; for they consider next to an knowledge of god. the creator; is man the created, this is evidently in reference to the mind, and heart, in themselves considered; and that not in an anatomical, or physiological point of view, but in a metaphysical, now it is not our desire to interfere with those gentlemen in

this favourite pursuits, but still we mean to assert, we also can with equal propriety, make use of the same form of expression, even in a more extensive sense; man know thyself, but for the acquisition of such amazing knowledge, where shall we begin.

The bony skeleton of man to the to the uneducated mind, is an object of hatred, and disgust, most revolting in all its aspects, the eye of refined delicacy turns away from it with utter indifference, and contempt, there is nothing in it to be admired, or wondered at, but rather that it should be hidden from the sight, and confined as they say to its proper place; what knowledge they involuntarily exclaim, is to be gained from a mass of unsightly bones: of service can it be to the human family, to disturb these poor sleepers, raising them from their graves before the proper time; thus they ignorantly reason upon a subject which above all others of an earthly nature, deserves the most careful and industrious examination, in order to ascertain the adaptation of each bone, to its neighbouring bone, and each part, to its corresponding part.

I design in the subsequent part of this essay to make a
a few observations, on some of the principal viscera; I will not
promise to enter fully into their anatomy, and physiology, for
this would be a thing altogether impracticable, in an article
of this kind; and if I were so disposed, I question very much
the ability; for I presume volumes might be written upon the
viscera, contained within the cavities, of the human body;
Each separate viscera I apprehend might form a very
fruitful theme, for some capacious mind, to expatiate upon,
being intimately acquainted, with their minute, and admirable, structure. It is truely amazing for an individual for
the first time, to sit down, and hear a course of lectures,
delivered on anatomy; (such as we have had the pleasure of
listning to,) and see for himself the hidden wonders brought
to view, for truely the internal structure of man, far surpasses
any thing we could have formed an idea of, notwithstanding
the noble figure, which he presents externally; even that
which has gained the admiration, and praise, of multitudes
throughout all generations. As the cranium occupies a very important
position, in the scale of living; I will first make a few observations
on its contained viscera.

What we may now ask does it contain, the brain, it is the sensorium; the source of all nervous radiation, both of sensation and motion, without it all would be as though it had never been, so far as the individual is concerned; from it proceeds all knowledge, by it we are enabled to discern between good and evil, to arbitrate in cases of life, and death, in fact to fulfil all the social relations of life, for it is a fountain of life in itself, disseminating all around the healthful, and salutary influences of its being: And not only is it a fountain of life, from whence those blessings flow, but it is also a reservoir to which return all those gifts imparted; in a tenfold degree increased, thus it is doubly blessed in giving, and receiving: thus it is with the man whose brain, is in a healthful condition, but if diseased, the picture is changed complete.

To this bony case, is affixed the vertebral column, a perfect chain of bones, united by intervertebral substances, and ligaments, through which pass the spinal marrow; which may be said without fear of contradiction, to be a prolongation of the brain; whose functions are in some respects, even of greater importance. Still it is a portion of the same, sending forth its infinite ramifications, to almost

every part of the system, like so many sentinels to carry information, to the encephalon. It may be said with great propriety the brain, with its appendages, is the most complex, and at the same time delicate, of all the viscera; and thus how necessary to be acquainted with the nervous system, generally, in our diagnoses, and prognosis, of diseases.

In this other frame work, to which I have already referred; viz the chest, there are contained viscera, so mysterious in their workings, and movements, as almost to set at defyance, all the reasoning powers of man: true long dissertations, can be made upon the human lungs, their uses, and abuses; the inhalation, and expiration, of the air, the substance of which the parenchyma, is composed; their multitudinous supply of minute blood vessels, and infinite ramifications of bronchial radicals; which pervade all parts of these great pheumatic reservoirs; from which is respired also every moment of our being, gasses which if retained, in the system, would prove as deleterious, as though we had inhaled some poisonous mefitis; or have been deprived of existance, with a dose of corosive sublimate; so baneful would be its influence.

The lungs are on either side, beautifully arranged, occupying the great lateral portions of the chest: having ample room for expansion, and consequent depression, superiorly occupying that portion formed by the arch of the upper ribs with the Sternum, in front; and the dorsal vertebra behind; and inferiorly resting upon the diaphragm, which is a large fibro-sero expantion of muscle, united centrically to the ribs and Sternum; and to the dorsal vertebra behind; thus dividing the trunk, into two great cavities, above and below.

Bought he said the cavity of the chest is lined with sero membrane, except that portion which immediately covers the heart, which is a fibro-sero membrane, which membrane, is frequently the seat of rheumatic affections;. But the truth of the whole matter is simply this. each of the lungs, are contained as we say in a shut sack: but they are not thus contained; for the lungs are to the out side of them as will be easily comprehended by examining the anatomy, of the parts hire spoken of: these shut sacks apparently line the chest and cover the lungs, and in the centre form the mediastinum; the pericardium, which is the shut sack of the heart alone comes in immediate contact with the former, composing its lateral boundary; and the pericardium forms the posterior

boundaries, of the anterior mediastinum, which contains the heart, thymus gland, and pericardium: the posterior mediastinum, contains the esophagus, aorta, and vena-azygos, thus is this great cavity filled up and disposed of, in the most admirable manner, that could be possibly devised, even I presume, if anatomists, of profound ability, had the devising of matter, and a better plan; reflecting honor upon that great being, who required not the assistance of arms, to produce such a master piece of creation.

The lungs, to which I have already referred, may justly be titled a pneumatic engine, of very peculiar construction, and for as peculiar an operation, of separating, the carbon from the blood, which has been accumulated, and gathered up, during the passage of that vital fluid, throughout the system: and here we might observe, (if it were not a digression) that it is not the want of breath, as is the commonly received opinion, as the indignate oxygenation of the blood, which causes asphyxia; showing the beautiful cooperation of this viscera, with that of the heart;

The one sending forth the pure vital fluid, by hydrostatic power, the other receiving it at its termination, separating the pure, from the impure; returning the one to the heart,

from whence it originally came, the other sending it entirely out of the system; answering thoroughly the just end, for which it was at first designed.

I am not certainly in error, in naming the heart an hydrostatic engine, look at its construction, from beginning, to end, its power of propulsion, and of suction, in the one case peculiarly its own, calling into requisition, the aid of valves, and tubes, of various formations, and dimentions, all subserving the common interests of the whole organization, not one part being defectively supplied, in its healthy condition.

Trace with me this wonderful apparatus, commencing at the left ventricle, examining its valves, of such admirable execution; with what wonderful accuracy the blood, is ejected, and when ejected, not permitted to return; passing up even contrary to gravity, into the arch of the aorta, even with accumulated power, as frequently to cause ammisms in that particular part, against which the blood impinges; for the simple reason that it is impressed, in its course, showing that there is no lack, or deficiency, of motive power, in that particular organ, from which the

blood is transmitted, but rather there is a concentration of force, sufficient to propel it to the most distant part of the system; showing the harmony which exists in remote parts of the animal organization.

Before we pass over this natural bridge let us for a few moments stand and admire its astonishing structure, surely this sanguiferous duct, will bare comparison with any of the aqua ducts of man; no matter how modern the manufacture; look how it springs into pipes, and tubes, in every possible direction, going off in two different courses to form the subclavian, that both the upper extremities, may be supplied: and then ascending still higher, under the names of the external, and internal carotid; so that the neck, and head, may receive their portion, of the vital flood.

The arch of which we have just been speaking, descends designated by the appellation, of descending aorta, supplying the trunk, and all its various dependencies, in its course; it then bifurcates, and descends still lower, to supply the inferior extremities.

All these great and leading trunks, have branches which

increase, and multiply, add infinitum, throughout the system;
depositing the materials, for making up deficiencies, which have
been sustained, whether it be bone, muscle, ligament, or any
other parenchimatous substance, which may have suffered
loss, or injury; All those various ramifications, of minute arteries,
terminate in what is called the capillary system, whose
office it is, to gather up all superfluous blood, pus, and impu-
rity, and convey it to the veins, which returns it again to the
right, auricle, of the heart; except that portion of blood,
which is returned to the liver, from the superior, and inferior,
mesenteric veins, and also from the pancreatic, to supply the
portal circulation: which after undergoing a process, of elabo-
ration; it is again conveyed by the pulmonary veins, to the
vena-cava ascending, which emptis it into the common recep
taculum, for all the venous blood; viz. the right auricle, than into
the right ventricle, thence into the pulmonary arteries, thence
into the lungs themselves; and is there exposed to the
oxygen, of the atmosphere: the carbon being disposed of,
it is again returned to the pulmonary veins; which return
it to the left auricle, thence to the left ventricle, and thence throug-
out the system.

It might be well to give a brief account, of the manner in which the circulating fluid, is kept up, for if it were not supplied from some other source; it is a point settled, it would soon cease to flow, notwithstanding its present beautiful arrangements. The food is taken into the mouth, masticated, reduced to a pulp, mixed up minutely with saliva, then swallowed, into the stomach; where it meets with gastric juice, the proper secretion of the stomach; which reduces it still further into a pulpy mass, known by the name of chyle, still it is not yet prepared properly, to enter into the circulation; it has to descend into the duodenum, there to meet with the combined juices, of the pancreas, and bile, in order that it may be properly prepared, to enter into the circulation; Being exposed to the mucous membrane of the alimentary canal, the absorbants, throughout its entire length, take up all nutricious particles, from the contents thereof; conveying the chyme, into the receptaculum, of the thoracic-duct, thence into the duct itself, where it empties its contents, into the left subclavian vein; at the junction formed at the union with the jugular; and I might also remark that all the absorbants, throughout, the superficial,

and deepseated, find their way to the thoracic-duct; carrying with them, all their contents, no matter what they may have been; where they are mixed up with the nutricious substances, proceeding from the intestines, all of which is thrown into the venous circulation, where it undergoes a change, rendering it a proper fluid, to be returned, by the pulmonary veins, to the heart.

Beneath the diaphragm is another spacious cavity, the parietes of which, are composed of very powerful muscles: whose fibres run in various directions, so as to contribute more effectually, to the support, and security, of their contained viscera, it is of some little importance, to be acquainted, with the muscles, which go to the formation, of the abdomen; in wounds, of divers kinds; in which surgical aid, would be requisite, in hernia, and other forms of disease; where it would be altogether impossible, for the surgeon to operate, without having a knowledge of the part; thus showing the importance, of a skillful acquaintance with the anatomy, of the human frame: and the advantages that must ultimately accrue, to its possessor, just in proportion to his acquirements.

An knowledge of the muscular system, generally is indispensable:

to know the why, and the wherefore, for every fibre, if possible; for there are no two fibreous — radiations, proceeding from one common centre; but there is a reason for it; and it is of the utmost importance, to know how such fibres run; and also the fibres of of all muscles, whether they be parallel, accute, obtuse, or oblike:. And not only is it requisite to have an knowledge, of the muscles; but also the arteries, veins, nerves, &c. their relative positions, the one to the other, and also the different angles, the assume: just like the sailors chart, which he peruses, with unremitting assiduity, so as to avoid those quicksands, on which so many of his fellow beings, have been lost, and lost for ever;.

In aneurism, how requisite to understand, the angular anatomy, (if I might be allowed, the expression;) in popliteal aneurism, to know exactly the different angles formed; taking the sartorius, for our guide: in aneurism of the carotid, subclavian, external, and internal illiac;, all are necessary to be understood, and that with precission; so that we may appear like workmen, who needeth not to be ashamed.

And also in hernia, how utterly impossible would be their reduction; but the man skilled in anatomy, could not only

a shining mark, of comfort, to suffering humanity, but go to work and reduce it, if reduction were possible:

If I were to lay before you, an exact outline, of the internal structure, of the abdomen, it would be sufficient, to to gain the admiration, of all who would examine it, seeing that each of the contained viscera, are so beautifully disposed of, the abdomen is divided, into different distinct portions, or regions, each region, being said to contain its own prescribed, portion of the contained viscera.

On the right, in that spacious cavity, is contained the liver, a very large and voluminous organ, occupying a very considerable space, beneath the diaphragm; sometimes more, sometimes less: owing to the healthy, or unhealthy, state of the viscera, having the ribs laterally, and posteriorly, and the abdominal parieties, in front: this organ is for the secretion of bile, which is so indispensably necessary, in the process of digestion, and chymification, and for the due maintenance of tone in the system.

The stomach occupies another very important position, next in size, to that of the preceding, and situated immediately to its left and somewhat beneath it,

this organ may be called with great propriety a laboratory, for truely in it are compounded, various kinds of chemical, preparations; not to speak of those abominable drugs, which are poured down, wholesale, and retail, without regard to quality, or quantity, and without having any due knowledge of the nature, of the part; thus it is poor deluded mortals do not live, one half their days.

The pancreas, is immediately beneath the stomach; this little viscera, pours its contents, together with that of the liver, into the duodenum; whose united influences, are duely associated, in the system.

The spleen, is immediately to the left, in contact with the pancreas; it is an organ whose function, is not properly understood, by men of high literary, and anatomical, attainments; and therefore, I will be silent, upon the subject.

The kidneys, are upon either side, beneath the foregoing, deeply imbedded in cellular tissue; they are glands for the separation, of the serum, from the blood; whose ducts viz. the ureters, are at once conveyed to the bladder, where the urine is deposited, and retained, until a proper opportunity, is presented

to evacuate it, exhibiting one of the wonderful provisions of nature; without this power of retention, what poor miserable creatures, we would be; unfit to mingle with society; or to participate in any of the social enjoyments of life.

The duodenum, is that portion of the intestines, which is in immediate contact with the stomach; indeed it has been called a second stomach, so much is its function, like that of the former: it is covered with peritoneum, as all the intestines are and retained by it, in its proper position: the jejunum, and ileum, are folded, as it were on the mysentary, which are made up of folds of peritoneum, being their investing membrane: The colon, also ascending, transverse, and descending, have their attachment, by means of folds peritoneum; called meso-colon: which keep them in their proper places. Thus is this long alimentary canal, bound down, by folds of this investing membrane; so as to occupy the smallest possible place; and also the glands, on which would have an opportunity, of absorbing fluids, formed by the process of digestion, which is requisite for the supply of the animal structure.

Thus have I passed on, in a very hasty manner, the brief outline, of the principal viscera, in the human organization, showing their different anatomical, relations, and locations.

Having a due knowledge, and acquaintance, with these portions of human anatomy, would certainly enable practitioners of medicine, to pass through their duties, with more comfort to themselves, and with infinitely more benefit, to their patients. What for example, will that individual do: who professes the practice of medicine, who never attended a course on anatomy in his life: who in fact has never looked into an anatomical work, in his life: for he will tell you of all branches in his profession, he detests anatomy: what I say will such an individual do, when called to attend a patient, who is laboring under some visceral lesion: say the brain, the heart, the lungs, or any other: he is unacquainted, with the physical signs, but this I need not have mentioned: if he knows not the organ that is diseased, it is altogether an axiom, that he will not be acquainted, with the physical signs, of the diseases of

those agons; And how often is such practice tolerated, persons who know no more about medicine, than the poor Indian in the far west, not even so much, for poor savages, are somewhat like the beasts of the field, nature, and instinct, lead them to herbs, and roots, which heal them of their malady; but not so those unscientific quacks; they prescribe, they know not what, and they as little care.

What would an individual do, who making pretentions, to the performance, of surgical operations; without an acquaintance, with this all important branch, of our profession; Viz, anatomy; For there have been such, in olden times, when without the slightest knowlege, of anatomy, would undertake operations, of a most difficult, and dangerous, nature; And one of those individuals, who was famous, as an extractor of stone; without the light of science, being advised, to study the anatomy of the part; did so in a partial degree, which merely opened his eyes, to see the danger of the operation; thus proving in the truest sense of the word, a little learning is a dangerous thing. being thus intimidated he relinquished

his former profitable pursuit, and sought one which would not require so much scientific knowledge.

An

Inaugural Dissertation

on

Delirium Tremens;

Submitted to the Examination

of the

Provost Regents, and Faculty of Physic,

of the

University of Maryland,

for the

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by

James M. Hollansbee.

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Delirium Tremens.

This disease, which has probably existed as long as its most frequent cause — the use, or rather the abuse of alcoholic drinks — has been in operation, is known by a variety of names. Some authors, considering it as arising only from excesses in drink, and at the time same to indicate the mental aberration, have called it Mania a potu, Delirium ebrietatis potatorum, Delirium ebriositatis, Phrenesia potatorum and Oinomania. Others, marking the organ affected and the nature of the affection, have called it Brain Fever; and others, again, expressing its most characteristic mode of manifesting itself, have named it Delirium Tremefaciens, and Delirium tremens. This last appellation, as it leaves undecided what is not clearly known — its precise nature — and, without limiting its cause to the use of spirituous drinks merely, sufficiently describes its most prominent symptoms — delirium and tremor — is the least objectionable of all, and is the one most commonly received.

Causes. The causes of delirium tremens are now acknowledged to be several, which circumstance it will be seen hereafter will require for it a variety of treatment. These causes will admit of a division into the predisposing and the exciting.

Predisposing causes. Of these, by far the most frequent is, as already incidentally stated, the inordinate and long-continued abuse of alcholic stimuli. These, whether used occasionally in very large, or habitually, in small quantities, almost always prepare the constitution, upon the cessation of their use, for the incursion of this singular malady. And, sometimes, without any diminution in their quantity, in the midst of a drunken debauch, or immediately succeeding one, its characteristic symptoms begin to appear; and thus these excesses become at once the predisposing and the exciting causes of the disease. Wherever, then, alcohol in its various preparations is very abundant, or wherever the mass of the population are in easy circumstances, there we may expect to see this disease abounding.

and such is the actual state of the case. In no country are circumstances more favorable to its development, and in no country, perhaps, does it more fearfully abound, than in this. Here, as elsewhere, those engaged in retailing, or in any way trafficking in ardent spirits, being more exposed to the causes, are more frequently the victims, of the disease. Nor does it result merely from the use of ardent drinks: the use of malt liquors, it is believed, predispose the constitution to its occurrence.

But these are not the sole predisposing causes of delirium tremens. The use of narcotics, as opium, is found to be in the East very favorable to its assault. The season of the year also is thought by some observers to have some predisposing influence: according to their observations, the disease is most common in the summer. Long-continued mental exertion; constant loss of sleep; venereal excesses, whether of masturbation, or otherwise; a nervous temperament, sedentary life, and whatever debilitates, — are among its less common predisponents. Sex, probably, has a more or less pow-

erful agency in its origin. While, in many countries, but a very small proportion of those attacked are females, and in none, perhaps, does that proportion ever amount to a majority, there is, nevertheless, a great probability that females, from their greater nervous impressibility, are more liable to become the subjects of delirium tremens than males. Yet their being less exposed to its causes than the other sex, furnishes a very obvious reason for their greater immunity.

Exciting causes. As already intimated delirium tremens may occur during, or immediately succeeding a protracted debauch; or, possibly, even during the moderate use of the habitual stimulus, as in tippling; but this is comparatively rare. Much more commonly, however, does it have as its exciting cause, the sudden cessation from the use of the alcoholic drink, or the accustomed drug, as opium, when it occurs to opium-eaters. Thus, whenever the drunkard, or tippler, or opium-eater, from any cause whatever, from an attack of disease, from poverty, a confinement, or from an attempt to abandon its use altogether, is in any way deprived

on another subject, there is "an increased disposition to act, without the power to act with.

The first form. This form of the disease is usually exhibited either during the progress of, or immediately subsequent to, a fit of intoxication. In this, as well as in the second form, the characteristic symptoms, delirium and tremor make their appearance; though the latter is said to be not a constant symptom. There is great nervous irritability; a flushed countenance; red and "ferrety eyes"; a dry and hot skin; the tongue is dry and cracked; the pulse is frequent, full, or hard; there is almost constant vigilance, with some mental alienation in the intervals of the delirium, which is often violent, and attended sometimes with vomiting and convulsions. Should no relief be obtained, death may occur, preceded by coma and sometimes convulsions. Death, however, is a rare termination of the disease either of this, or of the second, form — especially when appropriate treatment has been adopted. It will be seen that these symptoms indicate an inflammatory condition somewhere.

The second form. This is the most common mode in which the disease manifests itself. It is divided into three stages, between which, however, there is no distinct line of separation. These stages differ rather in degree than in kind; each succeeding stage being a sort of exaggeration in the intensity of the symptoms of the preceding one.

The first stage. This stage presents the ordinary symptoms of "the horrors". There is great agitation and terror; and these with the delirium and tremor may be said to be distinctive of the disease. The tremor, most clearly observed in the upper extremities, may extend to the general muscular system; but is, nevertheless, partially under the control of the will. Notwithstanding the delirium, the patient may be made to answer questions quite rationally, yet in a hurried and agitated manner; indeed this hurry and agitation characterize all of his actions; but his mind cannot long be occupied with any one subject. The pulse is feeble and frequent; the countenance is sometimes pale, but generally of the ordinary redness of

the drunkard; the pupils are slightly contracted; the tongue is moist, and creamy, and tremulous; and the patient when asked will thrust it out in a tremulous manner; the bowels are generally constipated; and with a diminished appetite there is increased thirst. There is a general clammy perspiration increased by any exertion; the feet are cold and clammy. As in the first form there is great watchfulness and restlessness. These symptoms, coming on in a variable number of days after the operation of their exciting cause, usually cease of themselves, or under treatment in a few days, very rarely terminating fatally. They may pass into the next stage.

The second stage. In this stage the preceding symptoms become of a more alarming character. The restlessness and vigilance are increased; there is also increased agitation and tremor of the hands. What was previously but slight mental alienation becomes at times complete. Strange illusions harass and terrify the patient; and according to Gerhard these occur during the night in the less confirmed varieties of this stage. Yet even here the patient may be convinced of their illusory nature.

still their apparent reality will again agitate him. These illusions are almost diagnostic of the disease; and are of every imaginable species of the horrible. Demons crowd around the patient; the most loathsome reptiles and disgusting vermin creep over him. If an artisan, his tools while in his grasp are sometimes transformed into these horrible monsters, and he drops them in horror. Still unless the disease becomes more confirmed, he can be convinced of their unreal nature; yet when it is confirmed — when the illusions become more frequent they become perfect realities. With all these symptoms, the patient is constantly talking, yet, from his agitation, in an inarticulate manner; he will often try to rise from his bed when tormented by the evil spirits that haunt him, but may be pacified, and seldom becomes so furious as to disobey commands. He is still able to answer questions correctly.

Besides these mental phenomena there are others of a physical kind. There is increased contraction of the pupils; the pulse is small, frequent, and soft; the tongue is foul, and usually moist; the appetite is entirely lost; the bowels are still costive, and the urine is scanty; the perspiration is clammy

and often profuse, and is said to have a peculiar, disagreeable odour, and different from that of the third stage. If recovery takes place during this stage it is preceded by sleep, occurring spontaneously, or as the result of remedies. Sleep, however, is not always followed immediately by the cessation of the disease. This sleep, especially when recovery ensues, is usually prolonged, even to forty-eight hours sometimes. Sometimes recovery is the sequel of only a few hours sleep. The disease usually terminates fatally, even in this second stage, if properly treated; but if treated improperly, or not treated at all, or in spite of all treatment, it may pass into the third, and last stage, when a fatal result is the most common one.

The third stage. The symptoms, or rather, the illusions of the stage just mentioned sometimes here disappear; but there is the same agitation, though attended with greater exhaustion. If the illusions continue, the patient's mind is not confined to any single object, but flies from one thing to another, seldom occupied with any one vision long. His speech becomes more and more confused, being mere muttering; hence the delirium is called a muttering delirium. It is now impossible to fix his attention, or to procure an intelligible answer to a question. He must be constantly watched, and

is often so violent as to seem to demand confinement; but usually his strength is so much exhausted that he can easily be restrained by one or two persons. The pulse becomes weaker and weaker, with very great frequency; his senses become more and more blunted; his perspiration is profuse and clammy; the pupils are very much contracted; but when death occurs and there is serous effusion into the ventricles the pupils may become very much dilated (Gerhard). All the symptoms indicate great prostration; sometimes convulsions are the immediate precursors of death; sometimes a comatose condition. In a very few cases recovery occurs even in this last stage; when it does, it is preceded by calm, a sleep.

Complications. These, of course, may be, and are, such diseases as the constant use of alcoholic and other stimulants ordinarily produce; as diseases of the liver, of the kidnies, and, probably, more frequently than either of these, diseases of the stomach; such as inflammation, dyspepsia, the former of which is said by Dr Stokes to be one of the essential pathological conditions of the disease of the first form. Of the diseases of the liver, there may be chronic inflammation, the fatty degeneration, and the hob-nail, or the gin-drinkers liver. Of the diseases of the kidnies,

there is often granular degeneration, or "Bright's kidney"; that disease, according to Dr Watson, being frequently frequently preceded by intemperate habits; they being, according to the same observer, predisposing rather than exciting causes. Cerebral and thoracic complications are not unfrequent in delirium tremens; the former arising from the action of the alcohol directly upon the brain or its meninges; and the latter, from the exposure to cold and wet, to which the drunkard must necessarily be subjected. Of the latter clap, pneumonia, pleurisy, and catarrh are common in the winter; while, says Gerhard, diarrhoea and dysentery are common in the summer. Many of these complications, it will be seen, will seriously embarass the treatment, especially those of them demanding the anti-phlogistic treatment, which most of them will. Of course the more serious disease must demand the first attention.

Morbid anatomy. As yet, no constant anatomical characters have been discovered in post-mortem examinations. Generally there is observed unusual moisture of the cerebral substance, with effusion of serum into the ventricles, and beneath the arachnoid. That membrane has not unfrequently been

found injected; and Dr Watson has found it thicker and less transparent than natural, and sprinkled over with little spots or streaks of a milk-white colour. By one observer, Guldberg, a deposite of lymph between the membranes of the brain has been found to be a common appearance. Congestion of the brain has been sometimes observed. But, as remarked by Gerhard, the probability is that the disease, which is probably a purely functional disorder, at least in its second form, is unconnected with any regular anatomical lesion of the brain and its membranes and spinal cord. As to other lesions, sometimes the mucous membrane of the stomach presents the appearance of chronic inflammation; indeed, in the first form of the disease, Stokes believes the pathological state to consist in gastritis, accompanied by high excitement of the brain and nervous system, owing to absorption of the alcohol, or to sympathy with the stomach, and tending strongly towards inflammation of the brain. So strong has been the appearance of this tendency towards encephalitis, that this form of delirium tremens has been mistaken for that disease. Another morbid condition, which Dr Watson has found constant, is a remarkably soft, pale, and flabby state of the muscular tissue of the heart.

Nature. Hitherto the nature of delirium tremens has been a matter of speculation. Considering it as a functional disorder, we are not surprised that it leaves no constant, perceptible traces of its action behind. Among the speculations on its nature are those of its being a cerebral congestion, sometimes arterial, sometimes venous, and producing the same pathological effect in the brain; and, of its being inflammation of the arachnoid; which idea is probably derived from the frequent observance of an injected condition of, and serous effusion, beneath, that membrane, with an occasional deposite of coagulable lymph. The most probable theory as to its nature is that proposed by Dr Watson, — that of its being a disease consisting essentially of nervous irritation. This opinion is indirectly supported by the traces of inflammatory action, occasionally met with in the brain or its membranes. Irritation differing from inflammation rather in degree than in kind, we have only to suppose that the causes which produce the irritation, either operate with increased and unusual intensity, or are modified by some peculiar circumstances, and cause an advance from irritation to inflammation, and we have a solution of the oc-

casional traces of inflammation. The ordinary cause, too, of the disease seems to point strongly to nervous irritation as the essence. The direct application of alcoholic stimulants to the encephalon (the existence of alcohol in that organ having been demonstrated) seems, certainly, sufficient to produce such an effect.

Diagnosis. The distinction between the first and second forms of delirium tremens may readily be perceived, by observing the circumstances under which the disease occurs, and also the attendant symptoms; the first form occurring usually after a debauch, and characterized by considerable vascular excitement, flushed countenance, red, injected, and "ferret eyes"; the second, after the abstraction of the habitual stimulus, without any temporary excessive indulgence, and with symptoms indicative of depressed vital action; such as, paleness of the face, smallness and quickness of the pulse, and coldness of the extremities.

But the distinction between the first form, and encephalitis, is not so easily perceived; and has indeed been sometimes exceedingly difficult. The two diseases very closely resemble each other in external appearances, and are known to be sometimes combined. To know when they are thus combined, and when solitary,

becomes of considerable importance in reference to the treatment, as the remedies of each are quite different, and even opposite. The combination of the two will, of course, present a combination of symptoms; and the characteristic of these we may learn by considering those of each separately, which will also distinguish each when solitary. To distinguish then these two: in encephalitis, we have greater flushing of the face, greater turgescence of the eyes, and more fever than in the first form, with the additional symptom of head-ache, which is wanting in that form of the disease. The delirium of encephalitis also differs from that of delirium tremens, in not being so subject to control and to intervals of rationality, and in not being of a busy and uniformly terrifying character. The absence of trembling of the hands also in encephalitis may also furnish another distinctive mark. Most of the other symptoms of each are quite similar; but it is unnecessary to repeat them.

There is also some possibility of confounding delirium tremens with some forms of insanity. But by observing that the delirium in the former is of a busy kind, that almost always the patient will give rational answers to questions, that there are intervals in the delirium, and that it increases at night;

while in the latter, the aberration is not particularly of a busy kind, that it will not permit of rational answers, that there are not similar intervals in it, and that it increases on the approach of daylight. The commemorative symptoms in each will also furnish additional, and generally, sufficient means for making out the diagnosis.

Prognosis. If it be a first, or second attack, — if the patient be young and robust, — if the disease has not advanced to the third stage, or if it be uncomplicated, — the prognosis is favorable; but if it be one of a series of attacks, — if the patient be old, or of a weak, and broken-down constitution, or if there be any severe complication, — then an unfavorable termination may be anticipated. If there be subsultus tendinum; a cold, clammy, and profuse perspiration; a frequent and thready pulse, and great vigilance, these also are unfavorable; while the cessation of the tremors, a tolerably warm and slightly moist skin, diminished frequency, and increased fulness of the pulse, and sleep are decidedly favorable.

Treatment. The treatment of delirium tremens is of every variety and character: there are the opiate, the emetic,

the alcholic or stimulant, the eclectic, the expectant, the mercurial, and the depletory, plans of treatment. But the first four of these have each been the most extensively advocated, and the most generally adopted. Some, as Dr Ware of Boston, have looked upon the disease as self-limited, - as running a certain course, and ordinarily terminating in recovery, without being controled by any plan of treatment; yet, nevertheless, not leaving the disease entirely to itself. Those entertaining this view follow the expectant plan.

First, of the opiate plan. Sleep is looked upon by the advocates of this plan as the "summum bonum": the patient must sleep or dies; and perhaps none advocate this plan with more earnestness and exclusiveness than Dr Watson. This method, too, it is recommended should be pursued with great activity - heroically. With this view, inordinate doses of opium are very often exhibited; sometimes the quantity has reached as high as twenty grains every two hours: so great, sometimes, is the indisposition to sleep in this disease. Under this treatment Dr Watson has seen the most surprising results; which would lead one to believe, contrary to Dr Wares opinion, that the disease

may be cut short. But without doubt this opiate plan may be, and often is, carried too far; and has indeed produced a state of coma, from which the patient has never recovered. In a small number of cases given by Dr Ware, under large doses of opium there was a mortality of one in two, (a very large mortality, it must be recollected) the mortality diminishing with the diminution of the dose. Although, from the small number of cases given, no very accurate conclusions can be drawn; still a certain tendency is seen in this plan of treatment, which should not be disregarded. Notwithstanding this statement, according to Dr Condie, the weight of evidence is in favor of the opiate plan.

Less generally adopted, perhaps, is the emetic plan. This use of emetics, however, is sometimes resorted to, also, by those who do not pursue an exclusive emetic treatment. This treatment is that adopted and advocated by Dr Klapp, in whose hands it has been remarkably successful; having lost only one out of fifty-one cases; — and that died of epilepsy. This, it must be recollected, was a perfectly exclusive emetic treatment.

The third plan, the alcoholic or stimulant, is that most strenuously supported by Dr Gerhard, who exhibits a very large num-

ber of cases treated in this way, in which the mortality was exceedingly small; the mortality decreasing according as this treatment was the more exclusively adopted. Out of five hundred and seventeen cases treated in this way, only five died, and of these, one was complicated with arachnitis; two had been previously treated elsewhere; and, in the case of one, some mistake was made by the attendant. Sometimes, while pursuing this stimulating plan, Dr Gerhard acknowledges that an emetic was given in the outset: this may have very materially affected the mortality. As we have seen that the use of emetics was very successful in the hands of Dr Klapp, it may be questioned whether in the cases observed by Dr Gerhard they may not have contributed very greatly to his success.

Notwithstanding the apparently very great success of this treatment, there is one very weighty objection to it; and that is, that it induces the patient to continue in the use of the article, which has either directly or indirectly been the cause of his disease, and to make him believe that it is necessary for his well-being; and thus it paves the way for repeated attacks of the disease, which, with every successive attack, becomes more

and more formidable, and will, probably, at last, carry the patient off in spite of any treatment. Certainly this should not be the universal and indiscriminate plan of treatment, as we have seen that, in a very large majority of cases, recovery takes place without any, or under other, treatment.

The eclectic plan is, perhaps, in this case, as in many others, the best philosophy. The truth of this remark will be more fully seen, when it is recollected that delirium tremens occurs under two forms, as already noticed. Admitting this to be a correct division, it seems obvious that there can be no one constant plan of treatment for all cases.

In the first form of the disease it seems clearly improper to give any stimulant. Viewing the disease in this case as probably complicated with gastritis, with a tendency towards encephalitis, the obvious indication is, if not to use depletion, at least to avoid stimulation. Now patients laboring under this disease are found to bear depletion badly; still, when there is clearly any inflammatory complication, gentle depletion may be advisable. When there is gastritis, a few leeches applied to the epigastrium, with the in-

ternal exhibition of pounded ice, or ice-water, Dr Stokes has found to be followed by very "extraordinary success". To counteract the cerebral complication, the head should be shaved, and a bladder filled with ice and applied to the would probably be beneficial: a few leeches also might be applied to the nape of the neck. Still all depletion should be used with caution.

In regard to the second form, depletion, in any form, is probably inadmissible. The patient (and this rule will apply with increased force to the first form) should be kept excluded from either too much light, or noise. No confinement with straight jackets should be allowed. The patient is generally submissive to commands, and, if not, can readily be held by a couple of attendants. An emetic is generally recommended in the outset; and might be given in the first form of the disease, when any irritating substance is suspected in the stomach. The patient is in this way very often prepared for sleep, to which the emetic disposes him; and, after this, small doses of opium will generally be sufficient to bring about that much-desired consummation. During the course of the disease the bowels should be kept open by mild aperi-

ents. Very mild, nutritious diet should be used to support the strength. Generally, after such treatment, sleep will ensue, and this sleep will be followed by recovery. If, however, the disease should continue to advance, — if the sleeplessness is very protracted, then the opium in some one of its forms slightly increased, with a small quantity of the alcoholic drink, which the patient has been in the habit of using, may be given. Or, if the patient is old, and of a broken-down constitution, if he has been accustomed to the use of alcohol for a very long time, then it may be necessary to administer this in sufficient quantity to support his failing powers.

If there are <u>thoracic</u>, or other complications (and these are not unfrequently met with), they will become the more important objects of attention; and yet they are frequently overlooked from their being masked by the delirium tremens. If, as they often will, these require an opposite mode of treatment to that of the more obvious disorder, the latter must for the time be disregarded, and the former attended to.

In that form of delirium tremens, known as delirium traumaticum, and attended, as is frequently the case,

with great prostration, stimulants and anti-spasmodics must be administered. Where the disease arises from any of the other causes already mentioned, tonics are the appropriate remedies.

Jas. M. Hollandsbee

An

Inaugural Dissertation

on Marsh fevers,

Submitted to the Examination

of the

Provost, Regents, and Faculty of Physic,

of the

University of Maryland,

for the

Degree of Doctor of Medicine:

by

Joseph D. Campbell

Marsh fevers— Intermittents and remittents

Before entering on the causes, symptoms &c. of marsh fevers, I will make a few remarks on fevers generally. The greatest diversity of opinion has prevailed regarding the cause and seat of fever.

The primary seat of, or starting point in, fever has been placed in every organ and tissue of the body; the brain, mucous membrane of the stomach and bowels, nerves, blood vessels &c.

In fever the whole of the functions are morbidly impressed. The exciting cause of fever, whatever it may be, produces an irregular action of the capillary system, owing to the extensive sympathy which exists between every part of the body; and this irregular action, probably, produces congestion, and then follows inflammation of some

organ or tissue, which may be the consequence, rather than the cause, of this disordered condition of the whole system. Probably, the febrific cause acting produces irregular determinations of blood to, or local congestion, in, some organ, causing an inflammation in its functions, thereby producing derangement in the whole animal economy.

There is, probably, not an individual, who is not at some time, more or less, predisposed or susceptible to febrific causes; and when these causes act, at this time, upon an individual so predisposed, or susceptible, then fever is developed. Now, if in such an individual there is a weakness, or predisposition to inflammation, in any organ or tissue, then congestions and local inflammations are developed. In fact the functions, of one or more organs, is deranged, so that the whole system is deranged, or

disorderes. Continued functional derangment of an organ, may cause fever.

The primary doctrine of fever is denied by some and maintained by others. Those who maintain that fever is secondary, and depend upon local inflammation, point triumphantly, as they think, to the lesions presented by post mortem examinations; while those who maintain the opposite opinion, say that these local inflammations are the consequence, and not the cause of fever. Local inflammations are more or less accompaniments of fever; but to say that fever is always dependant upon local inflammation, is probably far from the truth. The doctrine of primary fever is, probably, nearer the truth, for fevers arise and end without exhibiting any phenomena of local inflammation; that is, local inflammation is not appreciable to our senses.

Perhaps the first link in the phenomena of fever is to be sought in the nervous system. In the beginning of fever the nervous system seems to be morbidly impressed: there is headache; the mental faculties are confused; there is yawning with drowsiness; and there may be more or less Stupor, and sometimes watchfulness. There is pain in the back and loins; loss of appetite, and a sense of general debility. There is an expression of heaviness and anxiety of the countenance. Sometimes the face is pale, sometimes flushed. The tongue is coated and sometimes; it presents various appearances; it may be white and frosty; or it may be yellow; it may be brown, or it may be black. The skin is dry; but there may be partial sweats. The pulse is various; it may be full and hard; or it may be soft and weak. The pulse will vary according to the time

or atonic character of the fever. The stomach is out of order; there is loss of appetite; and there may be nausea and vomiting. The bowels are disordered: there may be constipation, or diarrhea commencing with the fever, or coming on during its course.

To say that fever always arises from local inflammation in a certain organ or tissue is certainly far from the truth. There has been, and is yet, a diversity of opinion as regards the seat and starting point of fever. Some localize it by referring it to the brain, connected with inflammation of that organ: others to the stomach and bowels, a gastro-enteritis.

Now, all these doctrines may be true sometimes, for if there is a predisposition, to inflammation, in any organ or tissue; and the febrific cause acting; under these circumstances, local inflammations are very soon developed. But it does not follow of course

because local inflammations are found that they are the cause of fever. However, the morbific cause acting, whatever it may be, aims to produce functional derangement of some organ or viscus; and this derangement of function may very soon run into inflammation; and consequently a new source of irritation. Whatever may be the cause of fever, the stomach seems to be morbidly impressed; probably, more than any other organ; and the great sympathy existing between the stomach and other parts of the animal economy, deranges the whole; for if the stomach is morbidly impressed, then other organs are more or less also; particularly the brain and the skin.

Whatever may be the cause of fever, it is a disease that affects the whole system. The brain, the circulation, absorption and the nervous system is affected. The symp

tons of fever vary somewhat according to the constitution, habits of life, and climate. Symptoms develope themselves in various degrees- one symptom may be severe and mask others. Fevers may commence with rigors or not; but generally there is more or less. The symptoms of fevers differ, though their general character is pretty much the same. The symptoms vary according to the organ affected: if the head is affected, there will be symptoms denoting cerebral disorder, such as headache, intolerance of light and sound, delirium, or stupor with low muttering delirium, and sometimes coma.

If the viscera of the chest is affected there will be dyspnoea, cough, expectoration, pain and oppression of the chest, with other physical signs of disease. If the viscera of the abdomen is affected it will be announced by nausea and vomiting, un-

causing a tenderness, increased on pressure; constipation, or diarrhea, and there may be a tympanitic abdomen.

Fever may vary from a high degree of excitement, to a low prostrated state of the system; and therefore they have been arbitrarily divided into Synoch, Synochus, and typhus. The first variety indicates a purely inflammatory fever. The second that of considerable degree of excitement, but with a tendency to early prostration: and in the third there is more or less prostration from the first.

A synochal grade of fever is one of high vascular excitement, the fever is intense; and owing to high vascular excitement, acute local inflammations may early develope; of which local inflammations are not the cause of this variety of fever. The second variety, synochus, is the most common grade of

fever met with. This is the grade of fever met with in intermittents and remittents. It is a variety of fever which occupies a middle ground between Synocha and Typhus. The Typhus or Typhoid grade of fever is characterised by a frequent, compressible pulse, great languor and debility; and the mental functions much disturbed.

Having said thus much upon fevers generally, I now proceed to speak of intermittent fever. Intermittents in a simple, uncomplicated form, are of not much consequence; but by a repetition, or continuation, they are apt to become complicated with some visceral disorder; and consequently, they then assume a more dangerous character.

Intermittents often become complicated with local disease; local inflammations may supervene; Perhaps the most common com-

plication is enlargement of the Spleen: the liver may become also enlarged.

The principal cause in the production of intermittent fever is Malaria; though fever of an intermittent character may be produced by irritating matter in the alimentary canal. Intermittents are divided into three stages Viz: the cold, the hot, and the sweating stage; and each of these stages present peculiar phenomena. The first, the cold, stage is ushered in by lassitude, yawning; the skin is pale and shrunk; the pulse is small and frequent; vapors more or less severe; confusion of mind; urine pale, great Thirst; quick and anxious respiration; and in violent cases coma may come on. The paroxysm of intermittents sometime comes on without any distinct rigor; the patient has many unpleasant sen-

sations; there may be only a slight sensation of cold; there may be only headache, lethargy, languor and yawning. Sometimes the paroxysm comes on announced by some painful, or neuralgic affection of one or more parts of the body. After a longer or shorter time, the cold stage gradually gives way to the hot stage. This stage is announced by a dry and hot skin; the face is flushed; more or less headache; the thirst is urgent; there is oppression at the precordia; and great restlessness. The breathing is hurried; there is pain in the back about the lumbar region; pain often also in the chest; and there may be some disturbance in the mental faculties; and there may be delirium. The pulse is quick, sharp, tense and bounding.

After this stage has continued for a time, it gradually passes into the sweating stage.

The perspiration first appearing on the

forehead and chest, which soon becomes general over the body. When this stage commences the uneasy sensations begin to subside. Sometimes patients fall into a quiet sleep and awake much refreshed; some complain of great languor and debility; and others whose constitutions are good, and not previously debilitated, often resume their usual occupations. During the course of intermittents inflamation may supervene. The viscera of the chest may become inflamed, particularly in intermittents during the Spring, as the viscera of the chest is then liable to inflammations: But during the Summer and autumnal months, the abdominal viscera are more liable to become implicated; and the discharges assume a more gastric and bilious character. At this season, intermittents may become remittents.

The above description may answer to the

intermittents of the temperate latitudes, for in tropical climates, or in situations abounding in materials for the production of malaria, intermittents assume a violent and malignant character. After a paroxysm reaction does not take place, the patient dying in a comatose state; or the reaction may be imperfect, and the disease very soon prove fatal. This is the form of fever called congestive; for it is certainly but a variety of marsh fever. This variety of fever is sometimes met with in the Southern districts of the United States. It is a disease exceedingly violent on the coast of Africa and in the neighborhood of the Pontine marshes of Italy. Simple intermittents, remittents and congestive fever may prevail at the same time in the same districts.

As regards the treatment of intermittent fever it must be regulated according

to its usual stage. The treatment during the cold consists in the administration of warm diluent drinks, warm applications to the surface; and sinapisms to the epigastrium; and if the patient is debilitated stimulants internally will be proper

Bloodletting is highly recommended in this stage; but I presume an indiscriminate use of this remedy would be highly injurious. In vigorous subjects, when apoplexy is threatened and the lungs are engorged, it is then a safe and proper remedy.

The treatment during the hot stage. In this stage the febrile action must be moderated. If the pulse indicate it, and there is local inflammation, the lancet must be used. The patient must be kept cool, and cooling drinks administered. The extremities may be sponged with water, either tepid, or cold, as is most agreeable to the patient.

treatment during the sweating stage. This stage requires very little treatment, probably, the administration of tepid drinks is all that is necessary. It is during the intermission that the cure is to be effected; and quinine is the remedy upon which reliance is placed. There is a difference of opinion as regards the doses ~~and times~~ which it should be given. It is recommended by some to be given in large doses just before the paroxysm; others recommend that it should be given in small doses frequently repeated. It is probable that in one or two grain doses, repeated every hour, commencing some five or six hours before the paroxysm, will be sufficient in a majority of cases: And the dose may be larger or not according to circumstances. The prompt administration of quinine is sometimes empiratively called for, when the case

is one of great debility, and in a broken down constitution: here quinine in large doses may be proper. It is not proper to administer this when there is any local inflammations, without it may be in the case just cited. It is proper to subdue local inflammations first, when the case is not urgent, and then use quinine. It is proper always to clear the bowels by some gentle cathartic; and when the liver seems not to be performing its functions, mercurials should be given. Sometimes the stomach and bowels are rendered very irritable by the quinine; and in such cases opium may be given; or perhaps what is better, prussic acid. Quinine may be administered by the rectum, and by the skin. Intermittents sometimes become complicated with enlargement of the spleen; and in such cases quinine may be given

in conjunction with the carbonate of iron.

Remittent fever. This form of fever arises from malaria; and may prevail in the same districts with intermittents, and at the same time. The forming stage of remittents are similar to intermittents. When the disease is fully developed, there is pain in the head more or less severe; pain in the back and lower extremities; nausea, sometimes biliary vomiting; the eyes are of an icteroid tinge; there is fulness and tension in the precordia; the pulse full, frequent and rather soft and compressible; the tongue is loaded, at first white and moist, afterwards becoming brownish or yellowish; a bitter taste; the bowels confined. The fever is generally ardent. A remission takes place in about twenty four hours; and after a short remission, the fever again rises. The remissions are sometimes pretty well marked then again they are very slight. Remittents do

not always appear in this mild form, but assume a more violent character. The fever is intense; great thirst; violent head ache, and pains in the back and lower extremities; great anxiety of feeling, and distressing sense of fullness in the epigastrium. A remission now or by complete may now come on. A severer and more violent paroxysm soon comes on with intense headache; the eyes are red and watery; there is a horrible distressing feeling in the epigastrium; nausea with constant retching and bilious vomiting. Another remission ensues, which is soon followed by a third exacerbation, which may terminate in death, or in favorable crisis. The fever sometimes assumes a chronic or continued character; great prostration comes on, with constant delirium, a quick, irregular, and frequent pulse; the tongue is clammy, black; eyes red, watery & dry; urine brown, blackish, offensive; sometimes

suppressed; alvine discharges watery, dark, black, or bloody; abdomen tympanitic; and also petechiæ and hemorrhages may supervene. This disease sometimes does not present much appearance of a disturbance of the biliary function; but this is not often the case, for the liver is generally more or less disturbed. When there is permanent biliary derangement, this form of fever is often called bilious fever. The liver is apt to be deranged and disordered during the heat of summer. In tropical climates the liver is generally permanently deranged; and there is more or less congestion and inflammation of the liver: The function of the stomach is greatly impaired; and there is apt to be inflammation of this organ of a subacute character. The bowels are apt to become disordered, with inflammation of their mucous membrane; and when this does occur, the symptoms assume a typhoid character;

and the fever assumes a continued form; the system is prostrated, with almost entire constant delirium; the abdomen is tender and tympanitic; the tongue becomes dry, dark brown, or black, with chapped edges; reddish and watery stools, like the washing of flesh. This is a highly dangerous state of disease.

Treatment of Remittent fever. The indications in the treatment of remittent fever, are, first, to moderate vascular excitement, when it is excessive. In the second place it is proper to evacuate the bowels; and, thirdly, to restore the healthy function of the liver.

In the first indication the lancet is to be used; and also local bleeding if there is evidence of local inflammation.

Bloodletting is indispensable when the pulse is full, hard and quick, the skin hot and dry. Sometimes the stomach is very irritable

with high vascular excitement, there bleeding is proper, with cool drinks, ice; and cupping or leeching over the epigastrium; and sinapisms. In remittents of a mild character, bleeding may be dispensed with, in general bleeding. The second indication is to be fulfilled by purgatives; and calomel should be used alone, and followed by some purgative mixture; or combined with rhubarb in the Compound Extract of Colocynth. After the first purgative, the bowels are to be kept open by laxatives and enemas; and they the bowels are kept free from irritating matter. Cool acidulated drinks, or ice, may be given during the exacerbation; and also sponging the extremities with cold water. Diaphoretics, probably, may assist in the reduction of febrile action. When the liver is deranged, mercurials are proper, particularly after the inflammatory symptoms

have been measurably subdued. Sometimes this disease assumes a chronic or continued character; there is a small irritable pulse, dry skin, & tongue of a dry dark brown; and the bowels torpid: here a cautious administration of mercury so as to touch the gums, is proper. If there is great restlessness and inability to sleep, from nervous irritability, after the inflammatory symptoms have been subdued, opium, or some of its preparations may be given; but if there is any inflammatory symptoms of the brain, it will not then be proper. The patient is to be kept cool and quiet. The diet should be light: indeed during the active stage of fever nothing but the blandest farinaceous liquid diet should be allowed. As regards the administration of quinine, it should not be given, as a general rule, during any ~~great~~ inflammation in any organ; but if the remissions are pretty complete, then quinine, probably, may be beneficial; indeed if there are no local congestions and inflam-

mations, and the functions of the liver are resumed;
and then an complete remission, then quinine is
highly beneficial. In that form of the remittent
fever in which the bowels present an inflamma-
tory state of the mucous membrane, the treat-
ment should be, leeches applied to the abdomen,
followed by poultices; and, probably, small doses
of Dover's powder combined with small portions
of calomel will also be beneficial; and nothing
should be allowed but thin gruel, or rice water,
or, perhaps what is better, gum water. Sometimes
the extremities become cool, while the body is hot;
and then sinapisms may be applied to the legs.

An Inaugural Dissertation On Acute Laryngitis

Submitted to the Examination

Of the

Provost Regents & Faculty of Physic

Of the

University of Maryland

For the

Degree of Doctor of Medicine

by

Thomas F. Mills

In compliance with the usages of the university of which I am a student, I write this thesis; the subject of which is acute laryngitis. In it I shall pretend to advance no original views or doctrine, for never having, even, the disease myself, I know nothing of it but what I have collected from writers on the subject. I shall therefore content myself with adopting such views of it as seem proper and correct, and rejecting such as are not so.

Acute Laryngitis

is the term applied to an acute inflammation of the membrane lining the larynx and covering the epiglottis. Various other names have been applied to this disease; such as: cynanche laryngea, angina œdematosa &c. But the term laryngitis seems preferable to all these, on account of its simplicity and correctness; larynx, and itis a suffix denoting inflammation.

This is a disease of not very frequent occurrence, which generally comes on suddenly, runs a rapid course; and if not recognised, and promptly treated proves fatal

in a great majority of cases. Even when it is early recognised, clearly understood and vigorously treated it often runs its course and terminates fatally in spite of the means used to arrest it. Dr Cheyne is of the opinion, that "laryngitis will probably prove fatal in a great majority of cases, under any method of treatment". But Watson says, "when the patient is seen tolerably early, and the nature of the malady is clearly perceived, and the source of peril thoroughly understood, I believe that our art is, in the most cases, sufficient to rescue the sufferer from the fate that hangs over him". I am of this latter opinion.

This disease was not recognised and described as a distinct malady until the beginning of the present century. The first case of acute laryngitis on record is that of General Washington, reported by Mrs Craik and Dick who mistook it for croup and treated it as such. Nor were English physicians better acquainted with it, for some years after Dr Fitzairn, one of the most eminent medical men of this time, being attacked with it, "when no longer able to speak, wrote with a pencil on a piece of paper that his

disease was croup". And Dr Baillie, then at the head of his profession in England, who attended Dr Pitcairn, knew no more about it than Dr P himself; and afterwards said that it was the first case of the disease he ever saw, and that at the time he was ignorant of the nature of the malady of which his friend was dying. According Cheyne, the first case of laryngitis, known to be such, occurred in eighteen hundred and six, to a patient of his. But the disease was recognised, and explained to Dr Cheyne, by Dr Heberden, who was called in to see the patient in consultation.

As being the first case of acute laryngitis that was recognised and treated as such, I will here insert an account of as given by Dr Cheyne in the Cyclopaedia of Practical Medicine.

Mr A, age forty six, robust and corpulent, in the spring of 1805 was for three months under a mercurial course, for secondary symptoms of syphilis. In the spring of 1806 was affected with fever and pains in his limbs; in july laid aside

this of flannel shirt, and thought he caught cold.
July 6th. severe fits of coughing: 11th 12th and 13th
troublesome nights from cough; 17th and 18th
From 14th to 19th, emetics, squills and opiates.
20th, respiration not quickened but difficult con-
striction felt in the larynx; long continued fits
of stridulous cough; tongue white and swelled, pulse
120, by an effort he can completely inflate his lungs
without raising a cough. On this day he was first
seen by Dr Cheyne at whose request Dr Monro
was called in consultation, whose opinion was that
the symptoms arose from inflammation and
thickening of the mucous membrane of the wind-
pipe. Twelve leeches to the left of the windpipe,
and a blister to the right; Pulv Jalapæ comp 3ß,
calomel grs v. July 22nd during the night he
slept not many minutes at a time, cough
threatening suffocation; expectoration of clear ropy
mucous; lisping inspiration, tongue furred and
swelled; evident pulsation as well as tenderness on

the left side of the thyroid cartilage and in front; which is painful when the head is turned.

When in bed, his head is low, and thrown to the left side; when sitting his chin is projected; countenance anxious."

"Opinion; as the disease appears confined to the upper part of the windpipe; if it was reached, should suffocation be imminent, to perforate the larynx between the thyroid and cricoid cartilages. July 24th, miserable nights often on the point of suffocation; pain on pressure over every part of the trachea; pulse 128; tongue more swelled. July 27th, in the last three days a pound of blood was drawn each day; the first blood sizy and cupped. Laudanum produced sleep but he awoke gasping; dyspnoea being more severe. Sometimes he started from his chairs and staggered from one room to and other; then his face was quite livid; his pulse, an hour after a paroxism, 136. Tongue swelled and indented from the impression of the teeth.

Emetic of ipecacuanha nearly proved fatal; when he began to vomit; his inspiration was interrupted and crowing; his face was pale and his lips livid. Calomel grs ij, terquotidie. Evening; haustis cum tinc opii, et vini ant gtts x.

Aug 4th sickness after evening draught which lasted all night."

At 7 A.M. breathed with great difficulty; extreme cold. He was taken from bed, and seated on a sofa, supported with pillows and cushions; after which his head fell upon his breast and he ceased to respire When his head was raised respiration was resumed, but it was stertorous, and his complexion was changed from the purple of imperfect respiration, to the paleness of cadaver".

Bronchotomy was performed, but without effect; he died in about two hours after the opperation"

"We were not permitted", says the writer, "to examine the body, but concluded that death arose from closure of the rima glottis owing to thickening of its lining membrane".

The first accounts, that were published, of laryngitis were written by Drs Baillie and Farre; see the transactions of a Society for the improvement of medical and chirurgical knowledge, vol 3d page 295. Wardrop's works, vol 2nd, page 54. See also medical and chirurgical transactions, vol 3d pages 84 & 323

The Pathology of laryngitis is very simple; it consists in inflammation of the mucous membrane lining the larynx and covering the epiglottis, accompanied with effusion of serum or pus into the subjacent cellular tissue. Owing to this inflammation of the membrane, and effusion of serum beneath, the sides of the glottis are brought more closely together than in health, and the free ingress of air to the lungs is thus prevented. The epiglottis is thickened, swollen and erect, and totally unfit to perform its office, protecting the cavity of larynx. With the above there are generally found some less important deviations from a healthy state of affairs, such as, inflammation of the fauces

vale and arch of the palate, and also some congestion of the mucous membrane of the upper part of the throat. But the inflammation generally ceases at the junction of the larynx with the throat, if the case be one of laryngitis complicated with croup.

Symptoms: the patient complains of sore throat and difficulty in swallowing; which may or may not have been preceded by sensations of chilliness alternating with flushings of heat. The pulse is sometimes but little altered, but mostly it is frequent contracted and tense. There is a feeling of soreness about the larynx, with tenderness on pressure. When the fauces are examined they are generally found slightly red and swollen. After the disease has gone on to any extent, there is great difficulty of swallowing; every attempt being followed by an alarming paroxism of cough and suffocative breathing. There is also great difficulty of respiration, so

accounts for which no cause can be found in the lungs.

The character of the respiration is peculiar; it is attended with a throttling noise; the act of inspiration is protracted and wheezing, as though the air were drawn through a dry narrow reed.

The voice becomes changed to a thick, slightly hoarse whisper or is almost entirely lost; the patient uttering only labial sounds.

The cough in laryngitis is almost pathognomonic: the patient is totally unable to cough out; any attempt to do so, resulting in a suffocative effort, and terminating in a low, grumbling and almost grunting sort of noise.

On interrogating the patient, with regard to the seat of his disease, he will generally place his finger on the pomum Adami.

The diseases that are most liable to be confounded with laryngitis are cynanche pharyngea, cynanche

tonsilaris and cynanche thrachealis and aneurisms of the thoracic aorta; Sir Watson mentions the case of a woman whose trachea was opened by a surgeon, while she was suffering under a mere histenia; so closely did the disease mimic laryngitis.

In cynanche pharyngea there is difficulty in swallowing but none in respiration; in cynanche thrachealis there is difficulty in respiration but none in swallowing; whereas in laryngitis there is difficulty both in swallowing and respiration. In cynanche tonsilaris we may have both difficulty in swallowing and respiration, but on looking into the fauces the cause of it will always be evident.

Auscultation will enable us to distinguish aneurism from laryngitis.

Treatment: in the treatment of this affection bleeding is our sheetanchor, though it has failed in the majority of cases in which it has been used. Here are eighteen cases of this disease in which bleeding was practiced, eleven of which cases terminated

fatally, and five were cured. The first case is that of General Washington, second the case of Doctor A; the patients of Drs Monro and Cheyne that I have mentioned before; then Sir George Tuthill, Dr Cleaton, the second case of Dr Baillie (see cyclopaedia of practical medicine vol 3d, page 114); Six cases of Dr Armstrong mentioned by Dr Eberle five of which terminated fatally, the last attack of Sir John Mc Hayes. The above cases all terminated fatally although blood letting was freely used. The following are five cases that were cured by free bleeding: a patient of Dr Armstrongs (see Eberles practice page 321), the first attack of Sir John Mc Hayes; Dr Travis of New York; and in the cyclopaedia of practical medicine the two following cases will be found. A woman who earned a pittance by gathering cockles; and who entered the the Dublin Infirmary, the 13th of July 1813: She was freely bled, and on the sixteenth of July was convalescent. In the Richmond Surgical Hospital, House of industry Dublin; Dr Cheyne saw a case

of inflammation of the larynx; which commenced in the tonsils, but was extended by malpractice to the larynx. The patient was a robust young man; his face was much flushed, and his pulse quick. He was completely hydrophobiac. When he tried to swallow the attempt was followed by an extraordinary difficulty of inspiration, and every attempt to articulate was productive of a sense of strangling. There was pain, and tenderness on pressure on either side of the pomum Adami. He was soon restored to health by copious general and local bleeding.

Although bleeding has proved ineffectual in two thirds of the cases in which it has been tried; yet no one would attempt to treat laryngitis without it; and from its having so succesful in some cases and totally ineffectual in others, we are led to enquire in what cases it would be most likely to prove beneficial, and where it would be likely to fail or prove injurious. Bloodletting will be used with more chance of success in

youth than in age; but on this subject I cannot do better than use, the words of Dr Watson (to whose work it is but honest to confess I am indebted for a great part of this thesis) Bleeding to be serviceable or safe must be performed early. There is perhaps no disease in which the fleeting opportunity is more conspicuous than in this. When I say you are to bleed early if at all, I do not mean that you are to reckon so many days or hours from the commencement of the disease; but you must ascertain what progress it has made, for it travels sometimes at a rail road pace. You must look to your patients actual condition: and I apprehend that your practice, in respect to blood letting, may be safely guided by the following rules. If there be high inflammatory fever present, and the skin is hot, the pulse firm and full, and the cheeks are red, and the lips florid, you may bleed your patient with decision and advantage. But if his powers are beginning to sink under the poisonous influence

of imperfectly aerated blood, if his skin be cold, or even cool, his face pale or leaden, his lips blue, his pulse small and feeble, his mind wavering, you will do no good by blood letting; nay you will increase the debility which already exists, and hasten the final catastrophe.

Though writers agree about the propriety of bloodletting in this disease, yet there is some difference of opinion as to the extent to which it should be carried. The advocates for bleeding to the extent of producing fainting, that I am best acquainted with, are Dr Bailies who says "At the begining of the attack it may be advisable, to take as much blood at once to produce fainting" Dr Beck of New York and Dr Eberle the latter says bloodletting to the extent of fainting must be regarded as an indispensible auxiliary in the treatment of this affection.

But on the other hand Watson and Cheyne advise us not to bleed to the extent of producing fainting for this reason that the blood in laryngitis is so imperfect a stimulus to the heart, that if the action of that organ be interrupted, it is not improbable that

it will never be recovered.

Dr Bayne relates several cases, in which copious bleeding was believed to have been the cause of the patients death. Dr Williams says: "we would bleed the patient but not to syncope; for this may deprive him of sufficient strength to struggle against the next spasmodic paroxism of dyspnoea. Believing the latter to be the best authorities I adopt their opinions; and would not bleed ad deliquium animis, in this disease

Antimony and emetics: with regard to the propriety of administering antimony in nauseating doses or as an emetics writers disagree. Armstrong and Eberle are decidedly in favour of its administration as an emetic. "No circumstance in my professional life" says Dr Armstrong "ever gratified me more than the great and sudden relief which vomiting affords in laryngitis; in reality it removed all the urgent symptoms at the time, and being excited as soon as the slightest sign of stricture of the larynx returned, at last completed

the recovery. Eberle relates a case which he cured by bleeding, blistens and emetics, and seems to give the credit of the cure to the emetics.

But here again Watson and Bayne differ from these writers, and forbid the use of emetics altogether. for they think that the contents of the stomach, in passing upwards would be apt to enter the glottis and produce a distressing and perilous attack of suffocative cough. So much does Sir Watson dread vomiting in this disease, that he recommends that antimony should not be used even in small doses, lest it be excited After a consideration of these authorities we think the emetics inadmissible in the treatment of this affection

Mercury should be freely given in order to affect the system, but copious salivation is to be avoided. Sir Watson thinks the use of mercury unnecessary in the treatment of laryngitis yet I believe that the weight of authority is on the side of

its administration.

Cathartics should be freely used. Dr Williams gives this formula ℞ Olii Tiglii gtts IV
Ext. col. comp., grs XX
M. div. in pil. IV.

Signa. One every two hours till copious evacuations occur. The warm foot bath should also be used; with blisters back of the neck or over the top of the sternum. As for gargles, they had better be let alone as they only trouble the patient, and can be of no use in curing his disease.

But if in spite of the remedies used to check this disease it should run on, and the patient grow worse, our knowledge of the pathology of it would teach us that if by any means we can give the air free admission into the lungs we rob the disease of its danger for inflammation of the larynx does not kill the patient per se, but by preventing the free ingress of air to the lungs: by mechanical obstruction. Now as this obstruction exists in the upper part of the wind-pipe, we have sufficient space between it (the obstruction) and the

and the lungs to perforate the trachea. This operation should be performed early; but ought never be omitted for fear it is too late, for if the patient is dying the operation can do him no harm, and cases are on record of patients being snatch from the very jaws of death, by its performance. Dr Stokes relates the following "A gentleman age upwards of sixty years, recently recovered from a violent pneumonia, was attacked with acute laryngitis, which baffling all efforts to controul it, brought the patients into the jaws of death in little more than twelve hours. It was determined that Mr Porter should be sent for to operate, but before he arrived the patient had become nearly insensible. The operation was proceeded with but inspiration ceased before the trachea was opened; the operator rapidly opened the trachea but no sound of inspiration followed; he applied his mouth to the wound and inflated the lungs, and produced artificial respiration at least seven times. When a loud and rattling inspiration, followed by full and free breathing proclaimed the triumph of art

An

Inaugural Dissertation

On Tubercular Deposit

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Of the

Provost Regents & Faculty of Physic

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for the

Degree of Doctor of Medicine

by

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Of Virginia

Tubercle is the essential of a class of affections which are among the oldest in the History of medicine, for which there never has been any successful rational treatment, and which, for frequency and fatality are unparalleled in the Catalogue of Diseases. The identity of tuberculous diseases was only suspected from the similarity of their general symptoms, before the year 1679, when, Sylvius de la Boe gave an account of them pointing them out as the cause of Phthisis and showing their connexion with scrofula. Before this time other notions both of Tubercle and Phthisis were very vague and unsatisfactory. The opinions of Sylvius de la Boe were adopted by several pathologists who succeeded him but the Knowledge of tubercle did not advance; and the pathological investigations which have rendered this Knowledge so perfect, are comparatively modern.

Laennec regarded tubercle as an accidental production. There is a production developed antecedent to the yellow crude tubercle which he believed to be its first stage, and the form in which it must necessarily exist on its first development. Many have denied the truth of this opinion: Louis thinks it may be developed primarily as yellow crude tubercle even in the lungs, where he has always observed it first in the form of grey granule; and gives as his reason for this, that he has never, but in two cases, seen it developed in any other way than primarily, in other organs. Bayle considered them, accidental productions distinct from tubercle and thought they might give origin to a peculiar sort of Phthisis. Andral says they are indurated hypertrophied air vesicles and there are several other authors who entertain the same or a nearly similar opinions.

Dr. Carswell who has brought forward some new notions about the seat of tubercle and its changes thinks that "the grey semi-transparent substance by no means necessarily precedes the formation of

the pale yellow or opaque tubercular matter. Thus; it is never seen in the cavity of the uterus or Fallopian tubes; in the ureters, pelvis, or infundibula of the Kidneys, nor do we recollect to have seen it in the cerebral substance. We have never met with it in the branchiæ unless in some of their minute or terminal branches. On the contrary, this semitransparent substance is frequently seen in the air cells, and on the free surface of serous membranes, particularly the peritoneum; and in both it is certainly sometimes observed to precede the formation of opaque tuberculous matter". There is nothing in all this to disprove the mode of origin which Laennec ascribes to tubercle, and he has seen the grey granules on the surfaces of peritoneum and pleura, and in other parts, and has had often an opportunity of witnessing the commencing yellow speck the sign of its transition into the crude tubercle. Louis says "we have met with the gray matter, though rarely, in other organs than the Lungs and in them as in the Lungs it has appeared susceptible of tubercular trans.

-formation". He cites a case where he found deposited in the great epiploon and mesocolon in the midst of a large quantity of yellow matter, masses more or less voluminous of grey semitransparent substance. Laennec alludes in confirmation of this origin to the fact that all the accidental productions, except melanosis, have their origin in the same way from a semitransparent substance and in their first stage are equally opaque as the grey granule. The uniformity with which the grey semitransparent matter precedes the development of the yellow tubercle in the lungs, is a strong argument in favour of a similar mode of origin elsewhere. Laennec has described several forms of the first stage of tubercle, such as the miliary granulations, which are smaller, have very frequently the greyish colour which belongs to miliary granule, and are more uniform in size and distribution. He also describes this matter in the two forms of grey infiltration and jelly-like infiltration. He has seen all these forms of first stage of tubercle changing into the crude tubercle but they are rarer forms than

that of the grey granule. The grey granule is of consistence little less than that of cartilage, of the size of a millet and from that to a hemp seed, of a roundish or oval form and is greyish and semitransparent.

The process of conversion into crude tubercle commences in the centre by the development of a minute yellow speck in the greyish semitransparent mass. This speck is developed at an indefinite period after the deposit of the grey granule and gradually enlarges until little by little it occupies the whole mass, when the tubercle is of a dull yellowish white colour of increased size but consistence as before. This change when it occurs in coalescent granules, commences in the centre of each original granule, and sometimes large masses are found, as the result of this change, of yellow crude tubercle. The yellow crude tubercle is of size of a pea and from that to a filbert and when much larger than the latter, it is to be inferred that it is not developed from a single centre. The yellow infiltration which is described by Laennec is formed by

the development of the grey tubercular infiltration and though the change here cannot be described as in an isolated tubercle it is undoubtedly conducted by the process of conversion just now described.

The period of softening like that of the previous change is indefinite. It commences in the centre giving no outward sign of alteration until it has reached some part of the exterior when the whole is melted down into a creamy consistent matter which makes its way out of the body by some convenient passage. This manner of softening has been described by Louis + Laennec but Andral is of the opinion that after a certain time of existence the tubercle begins to act as a foreign body causing the secretion of pus and other softening fluids from tissue around it and is melted down by their agency. Dr. Carswell thinks this is the most reasonable manner of accounting for softening and says the appearance of central softening is the mouth of a bronchial tube in which the tubercle is developed Right open by

the passage of mucus, or mucus pressed into cavity of an air cell by a tubercle formed on its surface: how he accounts for the softening when there are no open tubes and no consecutive mucus is yet untold. Dr. Carswell is more a minute than an extensive observer and has made several mistakes in his description of tubercle which lessen confidence in his theory, especially as it is new and strange. In his description of the product of what he calls tubercular peritonitis, he says he has found the peritoneum studded with tubercles and yet not one exists in the Lungs and he makes this, which is only a peculiar arrangement of lymph effused on the peritoneum, constitute an exception to Louis law, that tubercle is always found in the Lungs when it exists in any other part of the body. The progress of the softening of tubercle is the proof of the central softening, for on cutting into one tubercle the softening may be found only in a very minute point at centre: in others it occupies a much larger space and in others again it may almost reach the circumfer-

circumference and yet the tubercle retains its attachment to the surrounding tissue. There may be and there, no doubt, is sometimes an appearance of circumferential softening answering to Andral's description, when one of a group of coalescent tubercles becomes soft before the others and its pus, & other solvents, which there is no doubt that it is capable of forming from surrounding tissues, bathes the other tubercles causing their disengagement by which they become soluble. If according to Carswell, in the tubercles of the lung the central point of softening was the open mouth of the bronchial tube in which it was developed this could perhaps in some cases be traced out, but this not only never communicates with a bronchial tube but they are never seen leading to a tubercle and cut into a yellow tubercle whichever way you will there never can be found any part of it appearing soft but central point and only if this was the open mouth of a tube by cutting in various directions in various softening tubercles

you might hit on its length and get a line of soft-
tening matter passing through it.

Mr. Gulliver has made some interesting discoveries
in the minute Anatomy of Tubercle. Hee examines
them in the forms of grey granulation and yellow
tubercle and concludes that they like the other most
highly organized tissues have their origin in cells:
These are however supposed to lack the power
of reproduction and he has found them blighted
and degenerating as the tubercle grows larger.
If any confidence can be placed in these dis-
coveries of Mr. Gulliver tubercle cannot in its first
stage be considered inorganic - there may be
seen, according to some, blood vessels entering the grey
mass: Laennec has seldom seen this appearance
and it is probably deceptive. If however they only
differ from most highly organized tissues in the power
of reproduction of similar cells and corpuscules in the
ultimate cells and corpuscules which compose them.
they will be organic until there is necessity for the

effort of reproduction in their altered cells when dissimilar ones are produced and the tubercle is increased in size but lessened in vitality. These changes in the cells and corpuscles may correspond with the changes in tubercle accounting for their increase of size and the central changes of tubercle. This effort of reproduction would certainly be made in those cells which were the oldest and these would be at the centre, here the tubercle would first become inorganic and here would first become soluble in the serum which pervades its mass. The Law that universally prevails in the human body, that any inorganic substance must become Encysted ~~or give~~ origin to Irritation and subsequent Inflammation, adds to the probability that tubercle is organic as they are very seldom seen encysted and do not create any Irritation that may not be accounted for by mere bulk.

After the softening and escape of tubercular matter the cavity which they leave may cicatrize unless other tubercles in its neighborhood soften and often into it. If it increases to a very great size it may be and generally is if the case be a tedious one covered by a yellowish white false membrane and its walls secrete pus which is poured into an appropriate bronchus. The cicatrix may occur in almost any organ but the large cavity with the lining piogenic membrane is never seen but in the Lungs. Cicatrization is oftener met with in Lungs than any other organ and cases have been related where tolerably large cavities have healed in this way containing in their centre a small grain of chalky matter. A pucker is not unfrequently seen on surface of the lung in persons dead of another disease marking the point of a former excavation. Either of these may under favourable circumstances prove a means of cure and many are of opinion that this is the only stage of tuberculous disease at which an

accidental cure can be effected. Another means of cure, is the deposition of a chalky matter in the substance of the tubercle and after this change the formation of a protecting cyst to prevent irritation from its presence. When this change is once effected it is permanent - The rationale of the process is this: The saline components of tubercle are added in excess while the animal matter is proportionally absorbed: so that the mass which consisted before the commencement of this process of only two parts of saline matter to an hundred of animal matter now compose ninety six of the hundred parts. Dr. Carswell relates a beautiful case in illustration of cretaceous transformation as a means of cure. The patient was affected when a child with Tabes Mesenterica and swellings of the cervical glands some of which ulcerated she died of Metritis after delivery at age of twenty one: Several of the mesenteric glands contained a dry cheesy looking substance mix'd with cretaceous matter, others were composed of this matter alone, and a large tumour situated between the two folds of peritoneum and

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which appeared to be the remains of an agglomerated mass of glands, was filled with a substance resembling a mixture of putty and dried mortar moistened with a small quantity of serosity: In the neck of the same patient hard masses of cretaceous matter were also found. This process has been traced according to Dr. Carswell in bronchial glands and it is sometimes seen in the structure of scrofulous patients.

The received opinion as to the seat of tubercular matter before the researches of Dr Carswell was that it was most frequently found in the cellular tissue, Dr. Carswell is of opinion that its favourite seat is the free surface of mucous membranes and that in whatever organ it may be found the mucous membrane of that organ, if mucous membrane enters into its composition, will be principally if not wholly affected. He acknowledges the difficulty of demonstrating it when the mucous membrane is minute but thinks this very easy when it is extensive as, in the uterus Fallopian tubes &c. This is plainly a matter to be decided according to the fancy of every inves-

ligators. Dr Carswell has exhibited plates illustrative of its seat and presenting appearances which must be very rarely seen. The close connection that exists between cellular tissue and mucous membrane all over the body and the arrangement of these in relation would render it very difficult to demonstrate tubercle on mucous membrane anywhere. They have been demonstrated in the cellular tissue often as under the peritoneum, in the submucous cellular tissue of the intestines and in many other parts where there could be no doubt as to its seat. It is very unreasonable to suppose that it can be deposited on mucous surfaces and remain there for the constant secretion of mucus would be sufficient to remove it. Carswell supposes that it is secreted on mucous intestinal surfaces but that it is washed away by the contents of the intestine.

There is no organ in the body free from liability to tubercular deposit. There are many organs however in which it occurs so infrequently that they may be considered to have immunity from affection. The lungs are never found free from affection when tubercle is depos-

-ited in any other organ. Tubercle very seldom affects any one organ at a time but where it does the Lungs are the organs affected. In children the tendency of tubercle is to the Lymphatic glands and they are more frequently affected than the other organs, of these the bronchial & mesenteric glands are often affected - They are deposited in the mesenteric glands in such masses as to be sometimes felt through the walls of the abdomen. They are also met with in the bronchial glands in such size that they may trouble respiration and a case has been noticed when a monkey was entirely deprived of use of one lung by pressure on one of the two primary bronchi. They have been found in Liver pancreas, Kidney, Spleen, in Payer's & Brunner's glands in the Uterus, ovaries, prostate gland, testis, and in the ovarian & renal ducts. They have been seen in the substance of the heart very rarely, in the muscles of voluntary motion, once, and occasionally in the Brain cerebellum and spinal marrow and in the membranes of brain.

One of the most important and interesting subjects for study about tubercle is the tuberculous diathesis the evidence of tubercled disease or of extreme liability to the tuber affections. It almost always appears in persons having an hereditary tendency to tubercles and even in those whose general appearance would deny the taint the observant can often trace many of its features. All observation has proved that tubercle most frequently owns an hereditary origin and many believe that the tendency in the offspring is proportionate to the extent of the disease in the parent. In some this tendency is very strong, and tubercles are developed before birth, in others it is weaker and only marked by the diathesis and, perhaps, some disorder belonging to the cachexia, which disappears at a more advanced period of its growth and developments. The signs of the diathesis are pale pasty complexions, large heads narrow chests, protuberant bellies, flabby muscles and languid circulation. The eyes are large, the pupil dilated and there is often a peculiar bluish-white shining

appearance of the sclerotica & the upper lip is long and thickened. It is not to be deduced from the certain relation that exists in all cases between hereditary tendency and tubercles, that it is not very often produced in persons who have not the diathesis nor the hereditary taint. The disease which is capable of setting its mark on the off- spring of parents affected with it is the result of a degen eration of constitution from the continual application of its producing causes, and yet by the application of these causes from any length of time and in every degree the disease may be produced in the, before, healthy ind- ividual. As a proof of this, the certainty with which the disease may be produced in the monkey, cow, rabbit and several other animals by exposure to the various producing causes. confinement, bad food, bad air, change from a mild to the opposite climate &c. &c

an

Inaugural Dissertation

On

Acute Rheumatism

Submitted to the Examination

Of the

Provost Regents and Faculty of Physic

Of the

University of Maryland

For The

Degree of Doctor of Medicine

By

Samuel O Rogers

Of

Maryland

There are so many diseases from which man suffers - So many rivals in interest and importance that it is somewhat difficult to select a victim for an Inaugural Dissertation

I have chosen for several reasons to treat of Acute Rheumatism - In the first place because it is exceedingly common More widely diffused, less limited by clime or habits than almost any other acute disease. Whatever other forms of disease the young practitioner may meet with this he will surely find an obstinate enemy. After all too the most common are the most important maladies from the very fact of their frequency

Again In addition to its intrinsic importance it derives vast interest from its complications and consequencies. Recent discoveries too have thrown a new light on its nature, and science has given to

to our noble art a new weapon which more than all its predecessors promises to oppose its obstinacy. Such then are the reasons which have led me to select this subject

In the first place it will be proper to inquire into the character of the disease, that is its peculiar nature. Rheumatism is an inflammation; and has its seat in a certain texture of the Body and is strictly confined to that texture. The Fibrous Tissue.

Wherever this material is employed, in whatever situation, in whatever organ it is found, there we may have this specific inflammation. It most commonly appears however in the fibrous texture about the large joints. It is characterised by the symptoms common to inflammation as redness swelling heat and pain but instead of the throbbing sensation which is usually present in common inflammation we have

a ~~that~~ tearing or lacerating pain.

The fibrous tissue with in its healthy state is almost insensible becomes exquisitely sensitive The pain is much increased by pressure so much so as to render the movement of the affected joint or joints impossible, not that they have lost the power of moving them as in palsy but they dare not because of the exquisite pain which it occasions

Unlike common inflammation it has not suppuration for one of its terminations This never occurs except where it has run so high as to extend to other structures, by what is termed sympathy of contiguity Accompanying these symptoms we have a remarkably full bounding pulse, heated skin, flushed face, headache, with a dirty white coloured fur upon the tongue, which is generally ~~this~~ red at its tip; also a profuse sour smelling per-

spiration which failing to bring the alleviation which this secretion usually does, produces great debility. Should the perspiration be very profuse and continue for some length of time the parts where it has been most abundant are sometimes covered by numerous and anamia accompanied by miliary eruption.

The digestive system is generally deranged which is made manifest by the want of appetite great thirst and constipation

The blood too is not without its peculiarities for in it the fibrin is in such undue proportion. That should we follow the precept which is applicable in all other inflammatory diseases, bleed until the buffy coat is entirely or nearly removed, we should bleed our patient to death without fulfilling the indication

There is a modification of this disease which

has heretofore been spoken of as a separate va-
riety called synovial Rheumatism, and has for its charac-
teristic the following signs and symptoms
as characteristic contrasted with the fibrous
In the latter the extent of fibrous tissue im-
plicated is much greater There is not
much redness or swelling at first present
but after the pain has lasted for some time
it is present generally in a slight degree caus-
ed it is thought by the turgescence of the blood
vessels and at length slight pitting may
supervene Whilst in the synovial variety
but a smale portion of the fibrous tissue is inflam-
med. Soon after the disease is set up
the redness and swelling present themsel-
ves. The swelling caused by an effusion
into the cavity of the joint, and not as in
the other by the turgescence of the blood-
vessells. This is proved by manipulation
fluctuation being almost always present

and the synovial membrane tight and protruding as it were between the tendons
The difference in their constitutional symptoms are even better marked.

In the fibrous form the inflammatory symptoms are of a much higher grade the fever runs high The tongue is furred, with a firm round pulse and profuse acid perspiration.
In the other form the symptoms are of a much milder character the fever is milder and the perspiration not so copious.
A metastasis to the cardiac membrane is much less frequent in this than the other variety a valuable indication as we shall not have this formidable disease to dread.
But the fibrous form is much the most frequent. Again we may have the two so blended together, first the symptoms of one having the ascendancy, and then the other as to render a diagnosis between the two almost

impossible. One of the most striking characteristics of Rheumatism is its migratory and metastatic tendency; the inflammation appearing in one joint and then being suddenly lit up in another or when as in metastasis abruptly leaving its seat and invading another part and then perhaps assuming its former position.

The most interesting as well as dangerous leap, is that to the fibrous structure of the heart

Its symptoms are palpitation, oppression over the stomach, hesitation in breathing, and pain upon pressure between the ribs corresponding to the situation of the heart. But these symptoms may be almost ale absent and we should be left entirely in the dark were it not for Auscultation. Upon applying our ear to the chest of one labouring under this form of the disease, may be heard a sound which Dr Watson calls the to and fro or rubbing sound, a sound almost identical to that given when we apply

the palm of one hand to our ear rubbing the knuckles with the other. Again another is distinctly audible the deep seated or bellows sound. These sounds may by an educated ear be heard simultaneously or either may be absent. The one being caused by an inflammation of the external membrane of the heart the other the internal membrane. The pathological explanation is this. In the first the pericardium which in its natural state gives a smooth surface over which the heart passes at every diastole and systole, is rendered rough by a deposition of lymph thus giving the to and fro sound.

This sound when once present never ceases except by an adhesion of the pericardium to the heart We should have been unable to account for the second or bellows sound which has for its seat a part that is generally considered serous, believing as we before stated that rheumatism only invades the fibrous tissue, had it not been for the mi-

mute anatomical knowledge of Dr Watson who discovered that a thin prolongation of fibrous tissue was interposed between the endocardium which forms the valves of the heart; this tissue becoming inflamed threw out wart like excrescences of lymph which mechanically impede the functions of the heart thus giving us this beautifully interesting pathognomonic sound

The exciting causes of this disease are various the principal are sudden exposure of the body to vicissitudes of temprature especially from warm to cold suddenly checking perspiration or sitting long with wet feet or damp clothing.

Much of the liability to this disease depends upon the constitution and habits of the individual. The young and plethoric and those who have in the prime of life strained the functions of life as it were by the abuse of ardent spirits or other injurious practices are much the most liable to this disease

again we may and frequently do see persons that are spare and far from being remarkable for their muscular debelopement suffer as much as the plethoric and robust. But in these persons there may be and probably is a rapid formation of blood with an excess of fibrin

A quick violent exertion or strain as in pulling on a boot or lifting a heavy weight is very frequently the cause of a variety of this disease called lumbago to which old persons who have been accustomed in their youth to great exertion are peculiarly liable, ~~&~~ in a chronic form

This disease is often produced in its acute form by the irritation of the part as in a joint by long continued use. I have myself known of two young men who suffered acutely from this disease after having walked all day in pursuit of sport.

After the first invasion of this disease the predisposition seems to be much stronger

so as readily to be produced by a cause that would before have passed unfelt.

Here too hereditary predisposition is not without its power attacking generation after generation in succession and at times seizing upon the youngest as its victim

The diagnosis of this disease will be briefly disposed of as gout is the only disease with which it is liable to be confounded. formerly a discrimination between these two diseases was deemed of great importance for it was then thought that they required a different course of treatment. But with our present knowledge of the pathology of the two diseases, they are so nearly assimilated that the treatment of one would not be improper in the other

Their distinctive signs and symptoms are briefly these. In gout the smale joints are chiefly affected especially the great toe, in rheumatism the large joints In gout the pain is paroxysmal and the redness is brighter than

in rheumatism. Rheumatism may affect many joints at once whilst gout is generally confined to one joint. The profuse acid sweat which almost always accompanies rheumatism is never present in gout. Rheumatism too has no regard for age or sex whilst gout rarely attacks females and but seldom any one before the age of puberty. Neither is there that tendency to metastasis to the heart in gout as in rheumatism. From what has been said it will be plain that a diagnosis between the two diseases is plain & easy. Prognosis of Acute Rheumatism The prognosis is altogether dependent upon the promptitude with which the disease is met and treated in the first stage of the disease

Usually there is little or no danger impendiate to life. as there is no inflammation of equal intensity which so little deranges the vital functions it seeming as it were to expend its strength upon the joints and

external parts. The fact too of its not passing into suppuration and the other changes consequent to inflammation generally may account for the safety with which even a metastasis to internal parts are borne.

If the disease is treated with boldness from the first it may generally be easily controlled but should this not be the case and the disease is suffered to run on then a secondary inflammation may be set up and the case is materially altered and a great obstinacy of local affection may be expected If the plethora be great and inflammation high and inefficient means be used for subduing it, its local ravages and constitutional derangement may be excessive as they may continue for months undermining the health crippling limbs and producing frequently permanent anchylosis of one or many of the joints according as the disease may have invaded one or many

The Treatment. The indications here are to sub-
due fever and remove the inflammation
In its simplest form and earliest stage acute rheu-
matism is speedily relieved by the ordinary anti-
phlogistic treatment as bleeding purging saline
purgatives with antimony and abstinence
But it often happens that these means however
actively employed are not effectual in restab-
lishing health. Further means are then required
which will be noticed in their proper place

The first step to be taken when called to a case
of acute rheumatism is to bleed until a decided
impression is made upon the pulse the quan-
tity depending upon the constitution of the patient
but from 12 to 24 3 may be regarded as the ordina-
ry limits. Bloodletting is useful even should the
pulse not be full and hard if the general symp-
toms indicate an inflammatory action and
the blood drawn will exhibit a buffed &
cupped appearance whilst the pulse will be

found to rise.

Tartrate of Antimony is a valuable adjunct to general bloodletting in this disease often producing by its sedative influence highly advantageous results. its most beneficial effects are produced when given so as to produce nausea for a day or two in succession. The next step to be taken is to evacuate or rather purge the stomach and bowels freely to fulfil this indication a full dose of calomel may be given directly after the bloodletting followed in an hour or two by a brisk cathartic draught. Salines with antimony and colchicum may be now administered for the purpose of allaying the fever quieting the pulse and promoting the secretions, it may be proper here to state that the effect of the colchicum upon the bowels should be watched as it sometimes causes great irritation when its use should be immediately suspended. Under such treatment low diet and cooling regimen are indispensible

Generally the means which have already been spoken of will be suffecient to allay the fever remove the inflammation and restore health but there are cases where these means have had no such beneficial result. Fortunately there remains one remedy which is worthy of our confidence and that is mercury which is made subsidiary to bleeding & purging and should be used so as to produce slightly its constitutional effect generally 2 grs with a 1/4 of a grain of opium given every 4 or 6 hours will be suffecient.

When the inflammation continues in a joint after the fever has been subdued it should be regarded ~~and treated~~ as a local inflammation and treated accordingly cups leeches warm fomentations poultices or cold lotions are indicated according to the degree of the inflammation and the effects produced By such means the local inflammation may be so corrected to prevent organic lesion

On the subsidence of the inflammation the joint should be exercised as soon as practicable to restore the affected joint to its healthy functions By observing this rule much protracted confinement may be obviated and indeed ~~a~~ as permanent anchylosis.

Such is the treatment which the profession generally follow out but now for the discovery of which I spoke in the commencement of this treatise

It is that Phosphate of Ammonia has been found so highly useful in this disease as to have received the Title of a Specific from all those who have given it a fair trial.

Its efficacy was first discovered by Drs Thomas Buckler & Power of Baltimore city whilst engaged in experimenting with this medicine in different diseases.

But as the tendancy of Acute Rheumatics is to recovery and the reverse the exception it is somewhat difficult to establish its specific

effect in this disease.

as difficult as it may be yet I think it can be and indeed is daily proved by the practice of those physicians who are acquainted with its efficacy in this disease. I have my self seen the decidedly beneficial result in the administration of this medicine in the Baltimore Infirmary in several cases. These patients although suffering most acutely (so much so as scarcely to be able to move a limb) were in twenty four hours after the administration of this medicine much better and in 48 hours decidedly convalescent. But as these cases were both treated by the usual antiphlogistick means also they would have but little weight to the sceptical mind. I might state however that one of these cases after having almost entirely recovered took cold by some imprudence and the disease was again set up with all its vigor which was speedily conquered by the free

administration of Phosphate of Ammonia

I have been favoured by Prof. with the report of a case which proves as far as one case will go its decided efficacy.

I should state that this patient had often suffered from Acute Rheumatism which generally lasted for 4 or 6 weeks

Case. E G Aged sixty eight. Jan 10th 1845 attacked with Acute Rheumatism after continued exposure. When seen on the 11th was suffering intense general pain in every part of the body totally incapable of moving herself and every time her position was changed by her attendant was forced to scream from the intense agony which she suffered. High arterial reaction pulse being from 110 to 115. skin hot face flushed and the tongue heavily furred bowels constipated. Wishing to test the efficacy of Phosphate of Ammonia determined to use it alone without previous depletion

although from the great febrile excitement I felt somewhat anxious concerning the result.
Prescribed grs xv of the salt every three hours,
Next morning the 12th found her so much better that she thought she would attempt during the day to set up. Continued the prescription. Jan 15th She had been so much relieved that she resolved to discontinue the remedy through the 12 inst and was this morning almost as bad as on 11

Ordered the remedy to be renewed and continued, from that time there was a constant and rapid improvement, so that on the 15th she was moving about the house as usual, has since continued perfectly free from any untoward symptoms. The dose prescribed in this case is somewhat larger than is usually prescribed, the medium dose being from 8 to 10 grs three times a day gradually increased, but as it has no unpleasant effects I see no reason why it should not be administered in decided doses

An

Inaugural Dissertation

on

Scarlatina.

Submitted to the Examination

of the

Provost, Regents & Faculty of Physic

of the

University of Maryland,

for the

Degree of Doctor of Medicine,

by

Mich.l Marcus Garry.

February 2nd 1846.

To James Hoey, Esq.

This Dissertation

Is Most Respectfully Dedicated.

Scarlatina

Scarlatina is a desease classed, by writers on the Practice of Medicine, among the exanthematous fevers, because of the eruption which appears upon the skin after a certain duration of the disorder. It derives its name from "Scarlatta" signifying a red-colored cloth, in allusion to the color of the surface of the body while covered with the efflorescence. It consists essentially of fever, which after longer or shorter continuance, produces the peculiar eruption on the surface, which is the distinctive character of the desease. This affection was first accurately distinguished as a seperate and distinct desease, about two centuries ago, prior to which time it was allways confounded with measles. Scarlatina allways arises from a specific contagion which contagion seems to be under the

influence of certain conditions of the atmospheric air; as though sporadic cases are by no means rare, the disease usually occurs epidemically. A healthy person may catch the disease from being in the same room with the person laboring under the disease, from being near him; one may get the disease from handling the clothing of the patient; or from handling any thing the patient has touched. Sometimes an individual whose clothing has become infected with the peculiar contagious principle of this disease from contact or proximity to the sick, will, without getting the disease himself, communicate to others the most severe form of it. Thus Physicians sometimes carry it home to their families. Scarlet fever, like measles and smallpox, destroys the susceptibility of the system to a second attack; this is a general rule in the three diseases; yet we have exceptions to them all, and we meet with those exceptions more frequently in Scarlet fever than in measles or smallpox. In truth it is nothing unusual for persons who have had this disease once, when exposed to the contagion again to

have a very severe sore-throat. On the other hand, there are many persons, who, no matter how much they may be exposed, never contract the disease. The writer of this essay has never had Scarlet fever, notwithstanding he has been freely exposed to the influence of the contagion, since he has been a student of medicine, he has been with the disease in all its varieties and stages, he has handled patients during the period of desquamation, at which time it is said the contagious miasm is particularly active. he remembers several times to have inhaled the breath of persons in the last stage of Scarlatina Malligna, but has never to his knowledge experienced a single symtom of the disease. This exemption of some from the dangers of this malady, may perhaps be owing to some idiosyncrasy, or it may be caused some temporary predisposition, or preoccupation of the system. One may escape the disease at one epidemic, and at a subsequent period may suffer severely from it. It is said to occur more frequently, and to be less fatal in children than adults. I imagine it is seen more frequently in children

than adults, because three fourths of the adult population have allready had the desease when children, and it has been observed before, that one attack usually renders the system insusceptible to the action of the contagion through all future life. It is rare to meet with it in extremely young or extremely old persons. It is said to attack females more frequently than males: I do not know if this be true, and if true and if true I cannot account for it. Some assert that: allthough, Scarlet fever usually arises from a specific contagion, it may be produced by simple exposure to cold. I would suppose, in cases of this kind, that the individual had been exposed perhaps a long time before to the poison of the desease and that the atmospheric vicissitude acted as an exciting cause, and produced the fever when no cause could be assigned for its appearance. Four or five days generally elapse between the exposure of the person and the supervention of the desease; sometimes a shorter and sometimes a very much longer period intervenes. This desease occurs at all seasons of the year the foggy, damp

weather of autumn, coming on after a long, dry and hot summer, seems to be particularly favorable to its operation. Residents in low, damp and miasmatic districts of country are more subject to this desease and to have it in a more virulent form than those who dwell in high dry and healthy situations. Scarlatina commences with the usual symptoms of fever. The patient is restless and uneasy, he complains of Mal-aise, of uncomfortable sensations and general soreness all over his body, of head-ache and pains in the loins; he has increased action of the heart and arteries; the tongue is white the skin dry, the urine is diminished in quantity— in a word, he has fever. In Scarlatina simplex, this fever is light and moderate. On the second day after the commencement of the febrile symptoms, the surface of the body, begins to be covered with a scarlet colored eruption, which commences on the face and extends over the entire surface of the body, and subsequently over the mouth and fauces. This eruption seems to consist of innumerable red points or papillae, rising

out of an universally diffused erythematous blush. This may be particularly observed, in spots where the skin is fine and delicate, as in the flexures of the joints and loins. Sometimes the eruption is not universal, but forms large patches, especially on the trunk, the extremities being universally ~~diffused~~ covered with the continuous blush. The redness has been frequently likened to a boiled lobster or to the redness produced by rubbing the skin with rasp-berry juice. The skin appears to the touch as though it were perfectly covered with minute papillæ, like the cutis anserina which is observed when a limb is exposed to severe cold. From the commencement of the attack, there is generally slight soreness of the throat, attended with some difficulty of deglutition. This irritation of the throat sometimes produces slight cough, very different from the cough of measles, being without expectoration or hoarseness. The eyes become red, the face swells, the tongue is covered with a white mucous coat, except its edges which are red, its papillæ are enlarged and may

be distinctly seen through this thick white fur. The skin is dry and hot: the pulse active quick and frequent. There is thirst and want of appetite. Some times there is delirium but rarely; allmost allways this symptom is wanting in the simple variety. The eruption has completely developed itself and is at its height on the fourth day from the commencement of the fever; it now begins to decline, the fever abating with it: until the seventh day, when both have entirely disappeared. While this declension is taking place we have an abatement of all the other symptoms. The tenderness of the fauces deminishes; the perspiration is free; the urine deposites a copious lateritious sediment. The cuticle now seperates when the disease is declining, it does so by large patches, leaving interstices of healthy skin: it gradually becomes more and more indistinct until the end of the seventh day when it has entirely disappeared. The cuticle now begins to seperate, and this desquamation is attended with intolerable itching, leaving the skin very tender and liable to chronic pustular disease. The simple variety

is sometimes so slight as scarcely to deserve the name of disease. We may have so little fever as scarcely to be noticable, the patient thinking himself perfectly well until the efflorescence makes its appearance. When there is considerable fever its violence sometimes abates, when the eruption shows itself. Sometimes again, the symptoms are mild and favorable in the onset, but in a day or two, the disease will assume all the more violent and dangerous symptoms which characterise the anginose variety; to which I will now pass. The febrile symptoms are more violent in Scarlatina anginosa and the throat much more seriously affected. The incubation is accompanied with head-ache, pain in the muscles of the neck, anxiety, nausea, and vomiting occasionally occurs. The fauces, tonsils, palate are swelled. The voice is hoarse, deglutition difficult, and the respiration attended with some degree of distress: the pulse becomes frequent and quick but not

so full and vigorous as in the former variety of the disease. There is great thirst and heat of skin. The tongue is dry, red along its edges and inflamed. The whole course of the disease is marked by great restlessness and languor. The eruption does not appear so early as in the simple form, it generally does not occur until the third day of the disease; it is not so universal occurring in scattered patches; it appears and disappears, and thus from not remaining permanent; the disease is protracted and the desquamation irregular. Should the fever decline as early as the fourth, fifth or sixth day, there is seldom ulceration of the tonsils and palate, the inflammation of these parts passing off with the fever and eruption: but, if the fever is protracted and violent, it is most likely that these parts will ulcerate; and these ulcers will be soon converted into superficial sloughs. One should be very carefull in pronouncing upon the existence of sloughs ulcers, as the mistake is sometimes committed of pronouncing the tough, white, viscid mucus

which is excited in flakes upon the inflamed fauces, to be ulcers, when none actually exicted. These parts therefore require some caution upon examination. Occasionally the inflammation extends to the trachea, and the patient is affected with bronchitis. Again, there is inflammation and swelling of the rima glottidis and epiglottis, and the patient may die of strangulation. The brain is sometimes affected, producing delirium and coma. Abdominal enflammations also occur pretty frequently, and a large share of the mortality of the disease is to be ascribed to them. I may here observe that inflamation of the intestinal canal is one of the most common complications of the disorder in every variety. Scarlatina Maligna makes its appearance very much as does the anginose variety, the symptoms are similar at first. But it soon exhibits its malignant character. The eruption is slow in making its appearance, generally coming out as late as the fourth day: it is of a pale, or a dark and livid hue: it is

not constant in its duration: appearing and disappearing at uncertain intervals. The pulse, though at first full and active, soon becomes small and weak. Delirium occurs early, and frequently continues through the subsequent progress of the disease. The eyes are suffused, and the face presents a livid aspect. The tongue is dry and brown, the odor of the breath fetid. The throat ulcerates and sloughs, if the disease is protracted; generally, however, the patient succumbs, before the throat is much affected. Death occurs in from two to twenty days in fatal cases. In these the patient is prostrated, collapse soon occurs, copious diarrhœa comes on; hæmorrhages make their appearance, cerebral oppression is great and the patient sinks not so much from the disease itself, as from its complications. Now all these form of fever may be followed by various severe and dangerous maladies. The anginose variety, is more particularly apt to be replaced by these diseases. Inflammations of the mucous membrane of the alimentary

canal, of the tonsils, of the conjunctiva, of the parotid glands, of other glands of the neck, and of the testicles, rheumatism, chronic cutaneous eruption, chronic cough, bronchitis, and many other severe affections succeed this disease. But the most prominent of them all, that which most frequently is met with, is anasarca. This occurs most frequently after the anginose variety. It comes on in one or two weeks after desquamation. It is not generally dangerous unless a sudden effusion should take place into the chest or the ventricles of the brain. The more perfect the desquamation, the less is the liability to these secondary affections.

The Diagnosis of this disease is not usually attended with any difficulty. The only diseases, for which it may be mistaken are Roseola and Rubeola. Roseola is distinguished from Scarlatina by the absence of any affection of the throat; by the mildness of the febrile symtoms, by the absence of the

erythematous which accompanies the eruption of scarlet fever by the distress in the præcordia and by the short continuance of the disease. Scarlatina has for one of its first symptoms inflammation of the fauces more or less severe: It has a greater amount of febrile disorder: it has the erythematous blush, which contrasts with the natural color of the skin on which the miliary eruption of Rozeola appears. I before observed that measles and scarlet fever were confounded together until within the last two centuries. They are now easily distinguished. Rubeola may be known from scarlatina by the catarhal symptoms redness and suffusion of the eyes, smarting running from the nose and a peculiar hoarse cough, which has been designated the "measles-cough". Rubeola allways commences with these symptoms. In scarlatina the patient refers the first uneasiness to the throat: the fauces are red tumified and sometimes ulcerated.

much as they are in guineys. This is not the case in measles although there is sometimes slight soreness of the throat. The eruption of scarlet fever appears on the second day from the commencement of fever that of measles on the fourth day The surface in scarlet fever is universally covered with the eruption, or at least large patches; it is of a vivid red like a boiled lobster The rash of measles is disposed in crisentic clusters, which are slightly elevated, leaving interstices of healthy skin. In measles, the fever in some degree abates on the appearance of the rash This abatement does not obtain in scarlet fever. Lastly the consequences of the two diseases are different. Rubeola is followed by bronchitis, pneumonia, croup, and other affections of the respiratory organs. Scarlatina is succeeded by depositions in the joints by anasarca and inflammations of the serous membrance. Now the Prognosis in this disease must obviously

be very various. I once heard a Physician assert that he had become so perfectly familiar with scarlet fever that was absolutely certain he could effect a cure in every case he should thereafter meet with, just as certainly as he could cure intermittent fever. and in two weeks after, I saw three individuals consigned to the tomb whose deaths were ascribed to scarlatina, all under the advice and treatment of this same medical Gentleman and one of which occurred in the family among whose members he had made the above assertion. It is certainly true that simple cases allmost allways get perfectly well. Yet even here we may have cases, which, though mild and favorable at first; suddenly assume exceedingly violent and dangerous symptoms: we may also have dangerous secondary affections supervening during the declension of the disease. Scarlatina Maligna is allmost as fatal as the Plague. The Prognosis should be allways gaurded. The anginose variety is less severe.

The estimation of the danger of the patient is influenced chiefly by the character and violence of the affection of throat. A bright red appearance of the inflamed fauces is a favorable symptom. Not so if the mucous membrane wears a dark livid aspect. If there is great tumefaction of the fauces and neighboring parts, especially if it reaches the air-passages, the case will present a serious aspect. When the eruption frequently changes its hue and is by turns, red, pale, dark and livid, making its appearance now in one part and now in another, receding for a time, and again making its appearance, or suddenly disappearing altogether, we are to consider the danger as being great. Delirium setting in early, edema of the glottis or gangrenous ulceration indicate a speedily fatal result. The presence of violent internal venous congestion, of visceral inflammation or structural decease in any important organ gives reason to apprehend an unforable result; when these are followed

by great prostration, involuntary evacuations subsultus tendinum, hiccups, muttering delirium and coma, death may be announced with certainty. When on the other hand, the eruption appears uniformly over the entire body, of a bright red color, and the sloughs in the throat evince a disposition to separate; when there is a regular abatement of the heat and efflorescence of the skin, with lateritious sediment in the urine, and the expression of the countenance becomes natural, the respiration gentle, and the skin moist, our Prognosis may be of the most favorable character. It is observable that scarlatina is milder in children than adults, unless the former be laboring under painful dentition; it is also said to be most severe between the period of puberty and perfect manhood. In pregnant or puerperal women this disease is particularly dangerous. The treatment of this affection is exceedingly mild; it must be antiphogistic of course; a gentle purge or enema should be prescribed

to be repeated as often as may be necessary to keep the bowels moderately open: the patient should be put upon mild unirritating diet; cold water, toast-water, barley-water lemonade or something as simple should be his drink; the temperature of his chamber should be moderate; fresh air and cleanliness should be insisted upon: the covering upon his bed should be very light and his rooms well ventilated. The use of emetics has been strenuously insisted upon by many eminent practitioners. The distinguished Doctor Rush among others always commenced his treatment by giving an emetic which he sometimes found it necessary to repeat. They have been frequently found capable of producing very excellent effects. Cold affusion is recommended by high authority and has certainly been of vast service

in the treatment of this desease. This affusion may always be safely resorted to, provided intestinal or thoracic inflammation be not present, the skin dry, and its temperature high. Washing the patient with cold water, particularly his face, trunk and extremities, is also a very excellent practice in this desease. It is not generally necessary to take blood unless for the relief of some of its numerous complications which are always to be independently treated. To alleviate the state of the throat we may apply leeches around it; some prefer the application of a blister; we must give our patient cold drinks, and if he desires it, they may be iced. If there be sloughs in the throat, we may employ a gargle of the cloride of soda, the strength of the gargle being proportionate to the extent of gangrenous sloughing. If the

disease should pass into the low or typhoid state, it will be necessary to have recourse to an active stimulant and tonic treatment in order to enable our patient to bear up under the influence of the poisonous miasm of the disease which is so depressing. The best stimulant we can give is wine, in large doses, frequently repeated. Carbonate of ammonia, infusion of serpentaria, quinine and capsicum are highly recommended in this state of affairs. In spite of all we can do, however, our patients will generally sink under this form of Scarlatina.

I have now concluded this hurried sketch of Scarlatina, a disease which occurs so frequently and is so often fatal. It will be observed that I have said comparatively little concerning the treatment which occupies so many pages

in all our text-books. In fact the opinion has been taught me, that there is no proper treatment to be pursued in this disease. If we keep the patient clean and cool, give him plenty of pure air, give nothing to eat and little else than water to drink and take care that his bowels are not costive, we have our duty in this disease. But we must constantly examine the state of the head, throat, chest and abdomen and promptly treat any complications that may there arise; for to these complications, I conceive, are all the dangers of Scarlatina to be attributed.